FIFTH FIVE-YEAR REVIEW REPORT FOR HIGHLANDS ACID PIT SUPERFUND SITE HARRIS COUNTY, TEXAS



May 2018





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2016

Prepared by

U.S. Environmental Protection Agency Region 6 Dallas, Texas This page intentionally left blank

FIFTH FIVE-YEAR REVIEW REPORT HIGHLANDS ACID PIT SUPERFUND SITE EPA ID#: TXD980514996 HARRIS COUNTY, TEXAS

This memorandum documents the U.S. Environmental Protection Agency's performance, determinations and approval of the Highlands Acid Pit Superfund site (Site) Fifth Five-Year Review (FYR) under Section 121 (c) of the Comprehensive Environmental Response, Compensation, and Liability Act, 42 U.S. Code Section 9621 (c), as provided in the attached Fifth FYR Report.

Summary of the Fifth Five-Year Review Report

The Site's remedy consisted of excavation of waste and contaminated soil to the approximate groundwater level with off-site disposal and backfilling excavated areas with clean fill. The long-term remedy for groundwater included installation of groundwater monitoring wells and a 30-year monitoring program for groundwater, surface water and sediments. Monitoring is ongoing. EPA drafted a deed notice for the Site in 2007, but the notice was not located on file with Harris County. The Site is not currently in use.

Environmental Indicators

Human Exposure Status: Under Control

Contaminated Groundwater Status: Under Control

Sitewide Ready for Anticipated Use: No

Actions Needed

The following actions must be taken for the remedy to be protective over the long term:

- Collect additional surface water and sediment samples in the former sand pit adjunct to the site to determine if the contaminated upper aquifer is impacting areas beyond the Site. Take appropriate measures to ensure protectiveness.
- Revisit and update the draft institutional control instrument to ensure long-term protectiveness (e.g., make sure the institutional control runs with the land, prevents exposure to contaminated groundwater).
- Continue to monitor and evaluate contaminants of concern being detected more frequently in the middle and deep aquifers and determine impacts to long term protectiveness.
- Compare surface water and sediment sample data to ecological benchmarks and to appropriate human health screening values to determine if further study is needed.

Determination

I have determined that the status of the remedy for the Highlands Acid Pit Superfund site is short-term protective. This FYR Report specifies the actions that need to be taken for the remedy to be protective over the long term.

05/24/18

Carl E. Edlund, P.E.

Director, Superfund Division

U.S. Environmental Protection Agency Region 6

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CONCURRENCES

FIFTH FIVE-YEAR REVIEW REPORT HIGHLANDS ACID PIT SUPERFUND SITE EPA ID#: TXD980514996 HARRIS COUNTY, TEXAS

Stephen Pereira Remedial Project Manager	<i>C/23/17</i> Date
Carlos A. Sanchez Chief, Arkansas/Texas Section	Le/23/17 Date
John C. Meyer Chief, Superfund Remedial Branch	7/6/11 Date
Anne Foster Attorney, Office of Regional Counsel	9/19/17 Date
Mark A. Peycke Chief, Superfund Branch, Office of Regional Counsel	99/20/17 Date
Pamela Phillips Deputy Director, Superfund Division	05/24/18 Date

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ISSUES/RECOMMENDATIONS

FIFTH FIVE-YEAR REVIEW REPORT HIGHLANDS ACID PIT SUPERFUND SITE EPA ID#: TXD980514996 HARRIS COUNTY, TEXAS

Issues and Recommendations Identified in the Five-Year Review Report:

OU(s): 2	Issue Category: Re	emedy Performance			
	Issue: Data on the aquifer is not availa		aminated groundwate	r in the upper	
	Recommendation: Because of the high benzene concentrations in well UA-12 at the eastern boundary of the Site, collect additional surface water and sediment samples in the former sand pit adjunct to the site to determine if the contaminated upper aquifer is impacting areas beyond the Site. Take appropriate measures to ensure protectiveness.				
Affect Current Protectiveness	Affect Future Protectiveness	Party Responsible	Oversight Party/Support Agency	Milestone Date	
No	Yes	EPA/TCEQ	EPA/TCEQ	9/27/2020	

OU(s): 1, 2	Issue Category: In	stitutional Controls			
	Issue: No deed notice was recorded on file with Harris County. The draft deed notice contains limited information, which may not provide sufficient protection from source material left in place during excavation and contaminated groundwater. Recommendation: Revisit and update the draft institutional control instrument to ensure long-term protectiveness (e.g., make sure the institutional control runs with the land, prevents exposure to contaminated groundwater).				
Affect Current Protectiveness	Affect Future Protectiveness	Party Responsible	Oversight Party/Support Agency	Milestone Date	
No	Yes	EPA/TCEQ	EPA/TCEQ	9/27/2019	

OU(s): 2	Issue Category: Remedy Performance
	Issue: Arsenic and benzene have been persistently detected in the middle aquifer and periodically detected in the deep aquifer since the previous FYR.
	Recommendation: Continue to monitor and evaluate contaminants of concern (COCs) being detected more frequently in the middle and deep aquifers and determine impacts to long term protectiveness.

Affect Current Protectiveness	Affect Future Protectiveness	Party Responsible	Oversight Party/Support Agency	Milestone Date
No	Yes	EPA/TCEQ	EPA/TCEQ	9/27/2019

OU(s): 2	Issue Category: R	Remedy Performance		
·	have not been com	onitoring (O&M) acti pared to ecological b	rface water sampling a vities. Surface water a senchmarks. Local residentional purposes (sw	and sediment data
	ecological benchm	: Compare surface w arks, or equivalent, a e if further study is no	ater and sediment sam nd to appropriate hum eeded.	ple data to an health screening
Affect Current Protectiveness	Milestone Date			
No	Yes	EPA/TCEQ	EPA/TCEQ	9/27/2020

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LIST OF ABBREVIATIONS & ACRONYMS

Applicable or Relevant and Appropriate Requirement ARAR

Comprehensive Environmental Response, Compensation, and Liability Act **CERCLA**

Code of Federal Regulations **CFR** Contaminant of Concern COC

Clean Water Act **CWA**

United States Environmental Protection Agency **EPA**

Feasibility Study FS Five-Year Review **FYR** Highlands Acid Pit HAP Institutional Control IC

Investigation-derived Waste IDW Maximum Contaminant Level MCL

Milligram per Liter mg/L

National Contingency Plan **NCP** National Priorities List NPL

Operable Unit OU

Operation and Maintenance O&M Plugged and Abandoned P&A Protective Concentration Level PCL Potentially Responsible Party **PRP** Remedial Action Objective **RAO** Remedial Investigation RI/FS

Record of Decision ROD Remedial Project Manager **RPM**

Safe Drinking Water Act **SDWA**

Texas Commission on Environmental Quality **TCEQ**

Texas Department of Water Resource **TDWR** Texas Risk Reduction Program

TRRP Microgram per Liter

μg/L **URS** Corporation **URS**

Unlimited Use/Unrestricted Exposure UU/UE

Volatile Organic Compound VOC

Cubic Yards yd^3

I. INTRODUCTION

The purpose of a five-year review (FYR) is to evaluate the implementation and performance of a remedy to determine if the remedy is and will continue to be protective of human health and the environment. The methods, findings and conclusions of reviews are documented in FYR reports such as this one. In addition, FYR reports identify issues found during the review, if any, and document recommendations to address them.

The U.S. Environmental Protection Agency (EPA) is preparing this FYR pursuant to the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Section 121, consistent with the National Contingency Plan (NCP) (40 CFR Section 300.430(f)(4)(ii)), and considering EPA policy.

This is the Fifth FYR for the Highlands Acid Pit Superfund site (the Site). The triggering action for this review was the completion of the fourth five-year review on September 27, 2012. The FYR has been prepared due to the fact that hazardous substances, pollutants or contaminants remain at the Site above levels that allow for unlimited use and unrestricted exposure (UU/UE).

The Site consists of two operable units (OUs) that will be addressed in this FYR. OU1 addresses source control of waste and contaminated soil. OU2 addresses contaminated groundwater at the Site and monitoring of surface water and sediment.

The FYR was led by Stephen Pereira, EPA Remedial Project Manager (RPM). Participants included Sherell Heidt from the Texas Commission on Environmental Quality (TCEQ) and Eric Marsh and Ian Penn of Skeo, an EPA contractor. The review began on September 28, 2016.

Documents reviewed as part of this FYR are listed in Appendix A. The site chronology is provided in Appendix B.

Site Background

The 3.3-acre Site is located at the end of Clear Lake Road, north of Interstate Highway 10, in Highlands, Harris County, Texas (Figure D-1, Appendix D). Early in the 1950s, the Site is assumed to have received an unknown quantity of industrial waste sludge, believed to be spent sulfuric acid from oil and gas refining processes. The sludge may have been transported to the Site by barge. Waste sludges were then placed in an excavated sand pit (or pits) at the Site. After disposal, the sludge was reportedly covered with sand. The waste disposal activities contaminated soil and the shallow groundwater aquifer with hazardous chemicals.

The Site is located on a peninsula within the San Jacinto River's 10-year floodplain. The current average elevation of the Site is 5 to 10 feet above mean sea level. There is historical subsidence at the Site. Nearly 5 feet of subsidence was recorded at the Site between 1890 and 1973. Since 1964, the Site has subsided at least 2.4 feet. The Site is vacant. Only monitoring wells and fencing are currently located on site. Future development is not foreseen at the Site due to its location within the 10-year floodplain. The Site is bordered by two adjacent active oil/gas production wells and a petroleum distribution center, the Baytown Boat Club to the north, flooded former sand pits to the east, Clear Lake to the south, and the Grennel Slough to the west. Based on Texas Water Development Board data, there are no groundwater wells within a mile of the Site. Nearly 1,500 people live within 1 mile of the Site. The nearest permanent residence is approximately 1,000 feet from the Site. Recreational vehicles are located 275 feet north of the Site entrance gate. It is unknown if these are occupied year-round.

Groundwater occurs in three zones at the Site – the upper aquifer and the middle and deep aquifers. Groundwater in the upper aquifer flows radially from the Site and discharges to Grennel Slough, Clear Lake and the adjacent former sand pits. The predominant groundwater flow direction for the upper aquifer in December 2015 was to the east. Appendix C contains additional background information about the Site, including geology and hydrogeology.

FIVE-YEAR REVIEW SUMMARY FORM

SITE IDENTIFICATION Site Name: Highlands Acid Pit EPA ID: TXD980514996 City/County: Highlands/Harris State: Texas Region: 6 SITE STATUS **NPL Status:** Final Has the site achieved construction completion? Multiple OUs? Yes REVIEW STATUS Lead agency: EPA Author name: Stephen Pereira, with additional support provided by Skeo Author affiliation: EPA Region 6 **Review period:** 9/28/2016 - 9/27/2017 **Date of site inspection:** 12/6/2016 Type of review: Statutory Review number: 5 Triggering action date: 9/27/2012 Due date (five years after triggering action date): 9/27/2017

II. RESPONSE ACTION SUMMARY

Basis for Taking Action

In 1978, the Texas Department of Water Resources (TDWR) received a complaint concerning the Site (known locally as the Acid Pit). TDWR collected waste sludge, sediment, stormwater and groundwater samples and found waste materials at the Site characterized by low pH, and elevated total organic carbon, sulfate, heavy metals and organics including benzene, toluene, xylene and phenols. Based on these results, EPA proposed the Site for listing on the Superfund National Priorities List (NPL) in 1982. EPA finalized the Site's listing on the NPL in September 1983.

State-led site investigation work finished in July 1983 and the Site's feasibility study was completed in December 1983. Exposure pathways of greatest concern identified during these investigations were inhalation, ingestion and absorption of contaminants in site soils; migration of contaminants to surrounding surface waters; and downward migration of contaminants in the shallow aquifer toward the middle aquifer. Human contact with existing contamination was likely, as evidenced by records of trespassing, garbage disposal activities and recreational uses of adjacent properties and water bodies. Soil contaminants would have continued to migrate off site through wind and surface water erosion. Table 1 summarizes the contaminants of concern (COCs) identified at the Site.

Table 1: COCs, by Media

COC	Media
Metals (arsenic, barium, cadmium, manganese, chromium, lead)	Soil
Volatile organic compounds (VOCs) (benzene, toluene, xylene)	Soil
Semi-VOCs (phenol, pyridine)	Soil
Metals (arsenic, beryllium, cadmium, manganese, chromium, lead) Groundwate	
VOCs (benzene, toluene, xylene)	Groundwater
Semi-VOCs (phenol, pyridine)	Groundwater

Response Actions

The OU1 remedy, selected in the Site's 1984 Record of Decision (ROD), included excavation of contaminated soils and waste material to an approximate depth of 8 feet below ground surface (the approximate groundwater level), transportation of waste to a permitted Class I hazardous waste disposal facility, backfilling the excavated area with clean fill, construction of a temporary site perimeter fence with warning signs, installation of a groundwater monitoring system, and monitoring groundwater for at least 30 years after cleanup. EPA estimated that excavation would remove about 19,000 cubic yards of material located above the water table. During excavation, if contaminated soil and material was visually observed (e.g., presence of black soil) beyond the defined lateral limit of excavation, it would also be removed during cleanup. An estimated 58,000 cubic yards of wastes and contaminated sand and soil located beneath the water table were not excavated during cleanup.

The OU1 ROD identified the following remedial action objectives (RAOs) for the Site:

- Control off-site migration of wastes by surface and subsurface pathways to mitigate future environmental impacts on surface waters and groundwater.
- Minimize potential for human contact with waste materials.

The OU2 groundwater remedy, selected in the 1987 ROD, was a "no action" remedy with long-term monitoring of surface water and groundwater to track attenuation. The OU2 ROD selected no further action because OU1 cleanup would eliminate the potential for surface water contamination and EPA sampling at the time did not detect COCs in the middle or deep aquifers. The OU2 ROD stated that "upon completion of the Source Control

Remedial Action, surface water contamination from runoff will be eliminated; natural flow of ground water will cleanse the pore spaces within the shallow aquifer over time; ground water flow to surface water bodies will continue to carry some contaminants to the surface environment, but the heavy metals are not mobile at the pH of the transition region for ground water flow to surface water bodies, the organics are volatile upon contact with the atmosphere, and in view of the dynamics of the river and properties of the contaminants, the San Jacinto River should not be affected." It also stated that "[t]he natural flow of groundwater cleanses the pore spaces within the shallow aquifer over time. Attenuation of contaminants down to nondetectable levels within the upper aquifer should take about 350 years."

The RAOs for OU2 were to:

- Characterize contaminant migration to surface waters, area environment and deeper groundwater.
- Determine potential impacts to potential receptors.
- Evaluate the need for groundwater corrective action at the Site.

No numeric cleanup goals were established for the upper aquifer in either ROD for the Site. The 1987 ROD states that, based on the 1987 Groundwater Contamination Evaluation, a well survey of the area had determined that the shallow aquifer was not considered a source of potable water. The 1984 OU1 ROD identified Clean Water Act water quality criteria as applicable or relevant and appropriate requirements (ARARs) for potential surface water impacts from site soils or lateral movement of shallow groundwater. The 1987 groundwater ROD identified Safe Drinking Water Act maximum contaminant levels (MCLs) as ARARs for the middle and deep aquifers. Texas Risk Reduction Program (TRRP) Tier 1 Industrial Groundwater Protective Concentration Levels (PCLs) and MCL action levels are currently equivalent for groundwater COCs at the Site. TCEQ uses PCLs to report monitoring data collected as part of the operations and maintenance activities.

Status of Implementation

Construction activities for the OU1 remedy began in February 1987 and finished in July 1987. EPA selected contractor Chemical Waste Management to conduct remedial activities. Cleanup included excavating contaminated soil to an approximate depth of 8 feet and conveying the material to the Chemical Waste Management disposal site in Louisiana. Excavated areas were backfilled with clean soil, including 6 inches of top soil that was seeded, mulched and fertilized. Excavated areas were also contoured to mitigate on-site flooding.

During OU1 cleanup activities and subsequently during the operational and functional period, additional monitoring wells were installed to assess whether groundwater was moving laterally. The OU2 ROD called for no action and long-term monitoring of groundwater. TCEQ currently undertakes groundwater sampling of the shallow, middle and deep aquifers, adjacent surface water, and sediment on a semi-annual basis.

In 2001, the groundwater monitoring network at the Site consisted of 21 wells. In 2002, one middle aquifer monitoring well (MA-08) and one deep aquifer monitoring well (DA-08) were plugged and abandoned due to suspected cross contamination between the upper and the middle and deep aquifers. Replacement wells were installed (MA-08A and DA-08A). In addition, three wells (UA-03, UA-13 and MA-04), which were considered redundant by the state, were plugged and abandoned in 2002. The monitoring network currently includes seven wells in the upper aquifer, six wells in the middle aquifer and five wells in the deep aquifer.

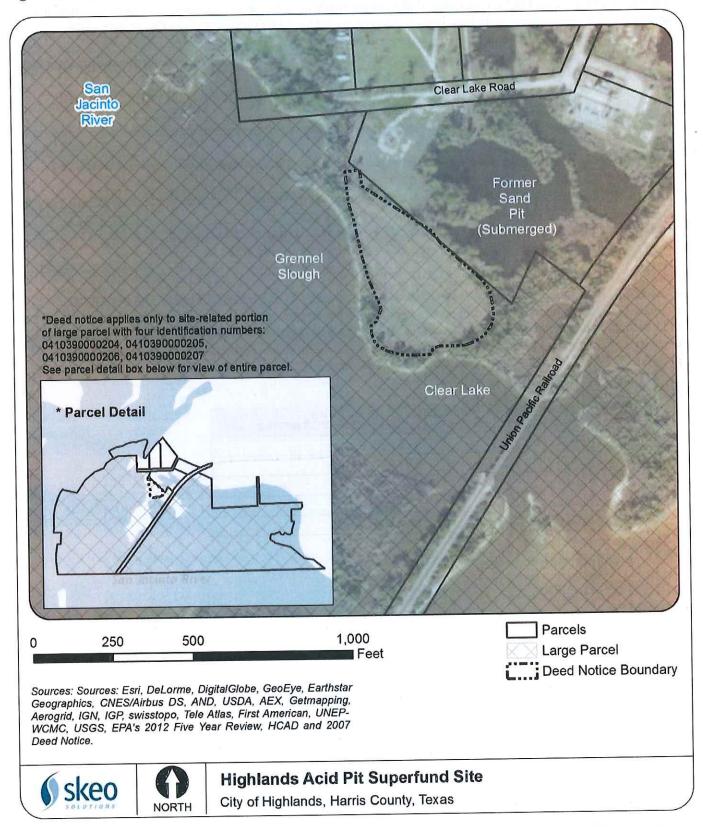
Institutional Control (IC) Review

No ICs were called for in the RODs for OU1 or OU2. However, in 2007, EPA prepared a draft IC for the Site in the form of a deed notice to address future protectiveness. The draft deed notice states that "[a]ny reuse or redevelopment involving subsurface utilities, excavation, fence removal, trenching, or well installation requires prior approval by TCEQ, USEPA, and the four property owners." The Site is part of a larger 100-acre parcel and is located within the 10-year floodplain of the San Jacinto River. The deed notice only applies to the 3.3 acres that make up the Site (See Figure 1) There are no site-related ICs associated with any adjacent parcels. Development of the site would be subject to the Harris County Floodplain Management Regulations. A copy of the draft deed notice is included in Appendix J.

Table 2: Summary of Planned and/or Implemented Institutional Controls (ICs)

Media, Engineered Controls and Areas that Do Not Support UU/UE Based on Current Conditions	ICs Needed	ICs Called for in the Decision Documents	Impacted Parcel(s)	IC Objective	Title of IC Instrument Implemented and Date (or planned)
Groundwater	Yes	No	Only the Site, which is a subset of a parcel with four parcel numbers: 0410390000204, 0401390000205, 0401390000206 and 0401390000207.	Restrict reuse or redevelopment involving subsurface utilities, excavation, fence removal, trenching or well installation without prior approval.	None
Soil	Yes	No	Only the Site, which is a subset of a parcel with four parcel numbers: 0410390000204, 0401390000205, 0401390000206 and 0401390000207.	Restrict reuse or redevelopment involving subsurface utilities, excavation, fence removal, trenching or well installation without prior approval.	None

Figure 1: Institutional Control Map



Disclaimer: This map and any boundary lines within the map are approximate and subject to change. The map is not a survey. The map is for informational purposes only regarding EPA's response actions at the Site.

Systems Operations/Operation & Maintenance (O&M)

In 2011, TCEQ selected URS Corporation (URS) as the O&M contractor to conduct semi-annual groundwater monitoring and maintenance activities. URS (since purchased by AECOM) revised the O&M Plan in 2011. O&M, which is ongoing, includes the following requirements:

- Sampling 18 on-site wells on a semi-annual basis, evaluating groundwater data and submitting reports to EPA and TCEQ.
- Inspecting site security and replacing and/or repairing security features as approved by TCEQ (i.e., signage, fencing, gates and locks, road access).
- Inspecting the Site to determine whether subsidence has occurred or if site benchmarks have been removed or damaged.
- Inspecting the Site for the effectiveness and extent of vegetative cover, erosion, cap and benchmark settling, heaving, and site run-on/runoff.
- Conducting grass mowing, vegetation clearing, and debris removal, including inspecting the Site for conditions that may indicate that soil erosion has occurred.
- Managing investigation-derived waste (IDW) generated during O&M activities.
- Performing regular sediment and surface water sampling as part of O&M activities.

O&M Costs

The 1984 ROD estimated annual monitoring and maintenance costs of \$14,100 for OU1. The OU2 ROD estimated additional annual monitoring costs of \$4,700, for a combined site total of \$18,800. The 2011 O&M Plan did not include estimated costs for semi-annual monitoring and inspection. Since the previous FYR, annual O&M costs have averaged just over \$85,000. There have been no significant additional O&M expenses since the previous FYR. Table 3 summarizes annual O&M costs since 2012.

Table 3: Annual O&M Costs

Year	Annual Cost (rounded to the nearest \$1,000)
2012	\$88,000
2013	\$91,000
2014	\$90,000
2015	\$77,000
2016	\$80,000

¹ Adjusted for inflation, \$18,800 for annual monitoring costs in 1987 is approximately \$40,000 in current dollars (2017). If that adjusted figure is doubled to account for two sampling events per year instead of one, annual monitoring costs remain comparable to estimated costs.

III. PROGRESS SINCE THE LAST REVIEW

This section includes the protectiveness determinations and statements from the last FYR as well as the recommendations from the last FYR and the current status of those recommendations.

Table 4: Protectiveness Determinations/Statements from the 2012 FYR

OU#	Protectiveness Determination	Protectiveness Statement
Sitewide	Protective	Based on the information available during the fourth five-year review, the selected remedy for the HAP site is performing as intended. The remedy will be protective of human health and the environment in the long term provided repairs are made to the monitoring wells and fencing, warning signs are placed within the cluster fencing, and O&M activities continue or are resumed.

Table 5: Status of Recommendations from the 2012 FYR

OU #	Issue	Recommendations	Current Status	Current Implementation Status Description	Completion Date (if applicable)
2	Site sampling	Continue semi-annual groundwater sampling of the upper, middle, and deep aquifer monitoring wells within the site.	Completed	Sampling of groundwater, surface water and sediments is ongoing on an approximately sixmonth basis.	9/23/2011*
2	Exceedance of action levels	The groundwater criteria set in the 1987 Record of Decision have not been met in the upper and middle aquifer. Although, for the middle aquifer, only arsenic was detected above MCLs during the August and November 2011 sampling events, this is problematic. Given the relevant decision document and the current data, EPA and the TCEQ should evaluate/consider whether more action is or is not necessary and document that an evaluation was conducted. In addition, an evaluation of the change in the arsenic MCL (from 50 µg/L to 10 µg/L in 2006) should be conducted to determine the impact to the site.	Under Discussion	Benzene and arsenic continue to be detected at concentrations above TRRP Tier 1 Protective Concentration Levels (PCL) in the middle aquifer. An evaluation of the change in the arsenic MCL has not yet been undertaken. Arsenic concentrations in groundwater are being compared to TRRP Tier 1 PCLs, which are 10 µg/L.	Ongoing
2	Surface water and sediment sampling	Resume/re-implement surface water and sediment sampling at least on a biannual basis. Compare surface water and sediment sample data to ecological benchmarks (TCEQ 2006), or equivalent, that have been established for surface water and soil in order to	Ongoing	Surface water and sediment sampling was reinstituted in 2012 and is ongoing. Comparison to TCEQ ecological benchmarks has not occurred.	Ongoing

		determine if further studies are warranted.			
1, 2	Operations and maintenance	Replace compression caps that are either missing or in poor condition, repair hinges to monitoring wells as needed (including UA-10 and UA-11), replace missing well cap locking pins and pad locks as needed, repair/extend the riser pipe within MA-02, install warning signs within the cluster fencing of the monitoring wells, and confirm well identification numbers and legibly repaint each monitoring well number.	Completed	O&M of the wells and well fencing is ongoing as needed and as issues arise. For example, in August 2015, ongoing well maintenance included replacing the well pad for DA-02, UA-10 and UA-11, installing protection posts for MA-03, and installing new compression well caps where required.	8/15/2015
1, 2	Surveying activities	Resume site surveying activities, including surveying the repaired riser pipe in MA-02 and the site's benchmarks.	Completed	Updated site survey completed in 2013.	8/28/2013
2	Disposal activities	Investigation-derived waste (i.e., purge water) should be labeled, characterized, and properly disposed of and not- stored onsite.	Completed	IDW is now appropriately labeled and disposed of offsite after each sampling event.	9/23/2011*

*Semi-annual monitoring, re-implementing surface water and sediment sampling and properly managing IDW are assumed to have been completed with the finalization of an updated and approved O&M plan for the Site.

IV. FIVE-YEAR REVIEW PROCESS

Community Notification, Involvement & Site Interviews

A public notice was made available by press release in the *Highlands Star-Crosby Courier* on November 24, 2016, stating that there was a FYR and inviting the public to submit any comments to EPA (Appendix F). The results of the review and the report will be made available at the Site's information repository, Highlands Public Library – Stratford Branch, located at 509 Stratford Street in Highlands.

During the FYR process, interviews were conducted to document any perceived problems or successes with the remedy. Interviewees included TCEQ staff, representatives from the O&M contractor for the Site (AECOM), representatives from Harris County's Pollution Control Services Department and nearby residents. Interviews took place in person and via email. Results of the interviews are summarized below. Appendix I provides completed interview forms.

Nearby residents interviewed were generally aware of the Site but were less familiar with the Site's history or ongoing monitoring activities. Some residents associated the Site with the nearby San Jacinto Superfund site during interviews. Overall, nearby residents felt EPA could do a more effective job of keeping them up to date regarding ongoing activities at the Site. No nearby residents interviewed had private wells. Some residents said that the adjacent former sand pit east of the Site is used sometimes for swimming and fishing. Residents also said that trespassing and trash dumping was an occasional problem on or near the Site.

The EPA interviewed local citizens that live in close proximity to the Highlands Acid Pits Superfund Site. After interviewing the local residents, EPA provided the citizens with the EPA webpage for additional information on the Highlands Acid Pits Superfund Site & contact information. EPA plans to send an annual facts sheet or host a community meeting for the local residents that live near the site. The EPA will work with Harris County regarding the trash dumping in the area.

Representatives from Harris County's Pollution Control Services Department were aware of the Site. They stated that the public often associates the Site with the San Jacinto Waste Pits Superfund site. They did not necessarily feel well informed about the Site's current status. Department representatives recommended updating groundwater flow maps of the groundwater bearing units and sampling residential wells to determine if there are nearby wells being impacted from exceedances detected in the middle aquifer (see the Data Review section of this report for further information on groundwater sampling data).

Site sampling and data do not indicate that contaminated groundwater in the middle and deep aquifer are moving in the direction of the private wells. Private wells are located over 1/2 mile from the site.

Sherell Heidt of TCEQ indicated that the state considers the Site's remedy to be protective of human health and the environment due to ongoing semi-annual monitoring and maintenance activities and the Site's vacant status. Ms. Heidt felt that all recommendations from the 2012 FYR had been sufficiently addressed. She indicated that TCEQ was satisfied with the status of ICs. Ms. Heidt expressed concern that benzene and arsenic concentrations have consistently exceeded MCLs and PCLs in the upper aquifer and that there have been more frequent detections of benzene and arsenic in the middle and deep aquifers during sampling events, including benzene exceeding PCLs in deep aquifer well DA-08 during the most recent sampling event in December 2016. She noted that the OU2 ROD states that if contamination broke through the clay aquitard separating the shallow and middle aquifers, corrective action could be initiated. Ms. Heidt recommended that EPA assess potential tidal influences on the upper aquifer, the movement of site-related contaminants to the middle and deep aquifers, and the potential impact to adjacent surface water and sediment to determine a need for further action.

There is no data or information to support TCEQ's statement that contamination broke through the clay aquitard separating the shallow and middle aquifers. Concerns were expressed during the first O&M sampling in 1988 and 1989 and in Section II, Response Action Summary of this report, that well installations may have cross contaminated the middle and deep aquifers. Some wells were plugged and new wells have been installed for the middle and deep aquifer since O&M activities started at the site in 1988/1989 and in 2002. Since then, contaminated levels in the middle and deep aquifers have fluctuated and currently do not exceed action levels. There are no indications, based on contaminant levels, that the middle or deep aquifers have been significantly impacted.

The site O&M contractor had a generally favorable impression of ongoing monitoring and maintenance activities at the Site. AECOM felt recommendations from the 2012 FYR had been addressed, including reinstituting semi-annual surface water and sediment sampling and proper management and disposal of groundwater sampling-derived waste. There have not been significant changes to O&M requirements or sampling routines since the previous FYR. Annual O&M costs have averaged \$85,000 since 2012, with only minor additional expenses in 2015 due to weather-related damage to well fencing. Regarding remedy performance, AECOM noted that organics (benzene) have not declined significantly in the upper aquifer and have been detected along with some inorganics (arsenic) intermittently in the middle aquifer, suggesting that additional investigation might help assess the potential for ongoing impacts to the deeper aquifers. The AECOM representative noted that the current sampling frequency for surface water and sediment may not be adequate to assess potential shallow aquifer impacts to those media.

Data Review

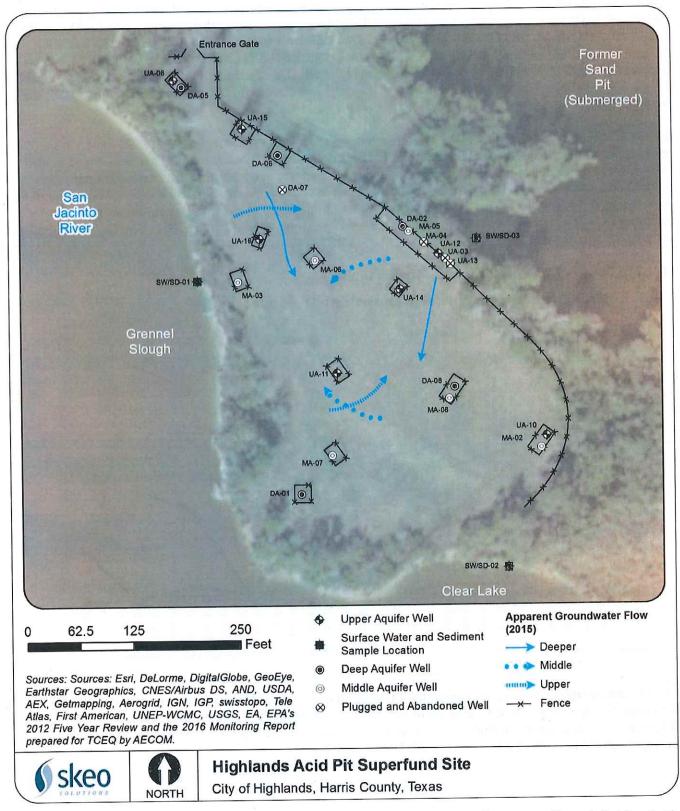
As required by the 1987 ROD, the collection of groundwater, surface water and sediment data is required to evaluate remedy performance.

Groundwater

The groundwater monitoring network currently includes seven wells in the upper aquifer, six wells in the middle aquifer and five wells in the deep aquifer. These 18 wells are the focus of this data review. Figure 2 shows current monitoring well locations. All active groundwater monitoring wells are located within the site boundary. There

are no off-site groundwater monitoring wells and no groundwater maps showing contamination for the Site. All groundwater analytical results were compared to the March 2016 PCLs. While the OU1 ROD lists SDWA MCLs as an ARAR for groundwater, groundwater results have been compared to TRRP Tier 1 PCLs since the 2007 FYR. PCL and MCL action levels are the same for COCs at the Site. TCEQ is conducting operations and maintenance activities for the site and they report the data as PCLs.

Figure 2: Site Details Map



Disclaimer: This map and any boundary lines within the map are approximate and subject to change. The map is not a survey. The map is for informational purposes only regarding EPA's response actions at the Site.

Upper Aquifer

Appendix H includes groundwater data collected through December 2016. Analytical results from groundwater sampling indicated many constituents are still present at concentrations above their respective PCLs. During the most recent sampling event in December 2016, COCs were at concentrations exceeding their PCLs including: benzene (wells UA-06, UA-10, UA-11, UA-12, UA-14, UA-16), pyridine (wells UA-10, UA-11, UA-12, UA-14), arsenic (wells UA-11, UA-12, UA-14, UA-15), cadmium (well UA-14), chromium (well UA-14) and lead (wells UA-11, UA-14) Benzene and arsenic have been persistently detected above PCLs in the upper aquifer since the previous FYR.

Benzene concentrations have fluctuated over time, but have regularly exceeded the PCL (0.005 mg/L) in six of seven upper-aquifer wells since the previous FYR. The highest average concentrations have been found in well UA-12, which is located along the eastern site boundary, suggesting that the full extent of groundwater contamination may not be known. Benzene concentrations have been detected above the PCL for every sampling event since 2011 for wells UA-11, UA-12 and UA-14 (see Figure 2). The pH environment in the upper aquifer continues to be low, which may be limiting benzene biodegradation. Figure 3 summarizes benzene concentrations in the upper aquifer since 2011.

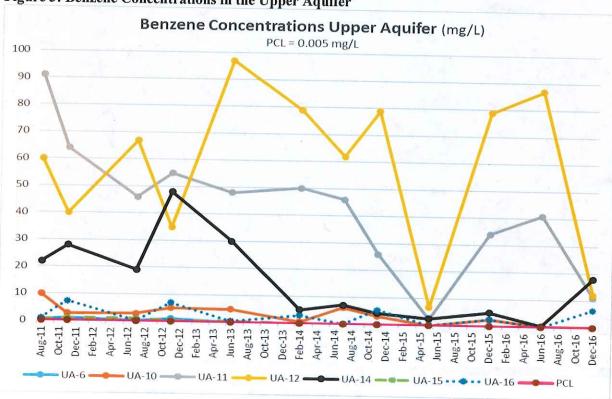


Figure 3: Benzene Concentrations in the Upper Aquifer

Arsenic concentrations in the upper aquifer have fluctuated over time, but have persistently exceeded the PCL (0.010 mg/L) since the previous FYR in six of seven upper-aquifer wells. Arsenic concentrations have been above PCLs for every sampling event since 2011 for wells UA-11 and UA-12. Figure 4 shows arsenic concentrations in the upper aquifer for sampling events since 2011.

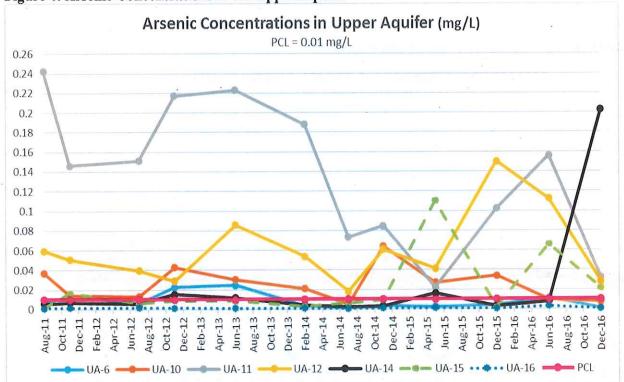


Figure 4: Arsenic Concentrations in the Upper Aquifer

Sampling results for benzene and arsenic suggest that material not removed during OU1 source removal (i.e., material below the water table) continues to impact the upper aquifer. Based on sampling results since O&M activities started in 1988/1989, contaminant levels have fluctuated consistent with the levels in Figures 3 and 4. Fluctuations in the upper aquifer will continue due to tidal influence at the site.

Middle Aquifer

Appendix H includes groundwater data collected through December 2016. Based on analytical results provided in semi-annual monitoring reports, both organic contaminants (benzene, toluene, xylenes, phenol, pyridine) and inorganic contaminants (arsenic, barium, chromium, lead, selenium) have been detected in the middle-aquifer wells since the previous FYR. Of those constituents, arsenic and benzene have been detected above PCLs in several wells.

Since 2012, benzene has been detected in several middle-aquifer wells (MA-03, MA-05, MA-06, MA-07). It was above the PCL in MA-06 during the November 2014 and December 2015 sampling events. Benzene was below the PCL in MA-03 during the December 2016 sampling event.

Since 2012, arsenic has been detected in all six middle aquifer wells (MA-02, MA-03, MA-05, MA-06, MA-07, MA-08A). It has been persistently detected above PCLs in wells MA-03, MA-05 and MA-06 at concentrations ranging from 0.0104 milligrams per liter (mg/L) to 0.028 mg/L. Figure 5 shows arsenic concentrations in the middle aquifer for sampling events since 2011.

Contaminants were detected in the middle aquifers during the initial O&M sampling in 1988/1989. Subsequent sampling events indicate that the levels in the middle aquifer are fluctuating and continue to fluctuate.

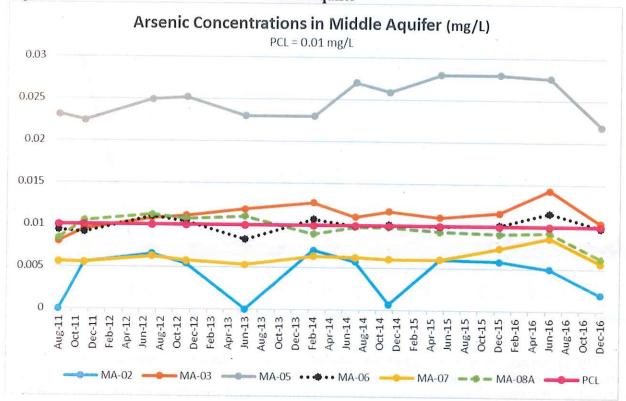


Figure 5: Arsenic Concentrations in the Middle Aquifer

Deep Aquifer

Appendix H includes groundwater data collected through December 2016. Based on analytical results in the semi-annual monitoring reports, arsenic and barium have been consistently detected in all five deep-aquifer wells since the most recent FYR, but at concentrations below PCLs. Concentrations of organic contaminants (toluene, xylene, phenol, pyridine) and inorganic contaminants (cadmium, chromium, lead, mercury and selenium) have been intermittently detected in the deep aquifer since 2012, but at concentrations below PCLs. In June 2016, benzene was detected in deep well DA-08, but at a concentration below the PCL. In December 2016, benzene was detected in four of the five deep-aquifer wells and for the first time exceeded the PCL in well DA-06 (0.012 mg/L). The other three detections were below the PCL. Benzene was detected during the initial O&M sampling in 1988/1989, but generally have been non-detect or at levels below PCL concentrations. Arsenic was detected in the deep aquifer during sampling conducted in 1997/1998.

Surface Water

Surface water sampling locations are shown in Figure 2. Surface water data were compared to the March 2016 TRRP Tier 1 PCLs for residential groundwater by ingestion of COCs in class 1 or 2 groundwater resources. Appendix H includes surface water data collected through December 2016. Since the most recent FYR, benzene has been detected in surface water several times. Benzene concentrations at SW-03, on the eastern boundary of the Site, exceeded the PCL of 0.005 mg/L twice since the November 2014 sampling event, ranging from 0.0051 mg/L to 0.02 mg/L. Benzene was not detected during the June or December 2016 surface water sampling events.

Arsenic and barium have been consistently detected at all three surface water sampling locations since the most recent FYR, but at concentrations below PCLs. Other inorganic constituents (cadmium, chromium, lead, mercury and selenium) have been intermittently detected in surface water since 2012, but at concentrations below PCLs. While lead concentrations have been below the TRRP Tier 1 PCL (0.015 mg/L) since the most recent FYR,

concentrations have occasionally exceeded Texas Surface Water Quality Standards (0.00115 mg/L) at all three surface water sampling locations, with detected exceedances ranging from 0.00145 mg/L to 0.024 mg/L.

Sediment

Sediment sampling locations are shown in Figure 2. Sediment data were compared to the March 2016 TRRP Tier 1 PCLs for Residential Total Soil Combined exposure pathways for COCs in soil. Appendix I includes sediment data collected through December 2016. Since the most recent FYR, concentrations of organic contaminants (phenol) and inorganic contaminants (arsenic, barium, cadmium, chromium, lead, mercury, selenium and silver) have been detected in sediment samples, but at concentrations below TRRP residential soil PCLs. Arsenic, barium, chromium and lead have been detected most persistently in sediment samples since the previous FYR.

Site Inspection

The site inspection took place on 12/5/2016. Site inspection participants included Stephen Pereira (EPA Region 6), Sherell Heidt (TCEQ), and Eric Marsh and Ian Penn (Skeo). The purpose of the inspection was to assess site status and the protectiveness of the remedy. It began at the entrance, located at the end of Clear Lake Road in Highlands, Texas. Participants examined all monitoring wells, the three surface water and sediment sampling locations, the site perimeter, and fencing at the site boundary and around on-site monitoring wells. (See the site inspection checklist in Appendix E and inspection photos in Appendix G).

The main entrance gate in the northern part of the Site was closed and locked, preventing unauthorized vehicle access. Warning signs in English and Spanish were posted on the main fence. Signs on the main gate were in good condition. The adjacent parcel, located north and northeast of the Site, is also fenced and locked, so vehicles would need to get through two locked gates to access the Site. Because of heavy rains, there was some standing water seen on site, but no areas were inaccessible or flooded during the inspection. Perimeter fencing is in place around about half of the Site (along the eastern boundary, beginning at the entrance gate and extending around the Site to near SW-02). Perimeter fencing was in average condition; some sections have fallen over or been pushed over. Barbed wire on top of perimeter fencing was also missing in places.

All on-site wells are surrounded by locked fencing, which generally appeared to be in good condition. A few well fence areas (e.g., wells UA-10 and MA-02) were missing some of the barbed wire across the top of the fence. Each well fence has warning signs posted, but some signs had been blown off fencing. Vegetation across the Site appeared to be well established. Due to recent rains, there were a few small areas of erosion an inch or two deep. Overall, monitoring wells appeared to be in good condition. However, soil erosion was observed beneath the concrete pad for well MA-06.² Participants unlocked several wells to inspect well caps. All caps inspected were in place and locked however a few well casings were missing locks. While all on-site wells were labeled, some labels have faded and were difficult to read. Monitoring wells could benefit from new, more visible labeling.

There were no signs of vandalism on site during the inspection. However, there were signs of trespassing along the perimeter of the Site, and in particular along its southern and western borders. Glass bottles and other litter were found along the shoreline near SW-01. Tires, coolers and other litter were also found along the shoreline and in the woods near SW-02.

After the site inspection, the FYR team interviewed five residents living near the Site. The FYR team then met with and interviewed officials from Harris County. Completed interview forms are provided in Appendix I.

On the morning of Tuesday, December 6, 2016, the FYR team conducted research at the Site's two information repositories – the Houston Central Library and the Highlands Community Center. No site-related documents were found at the Highlands Community Center. One document, the 1987 Groundwater Contamination Evaluation, was found at the Houston Public Library via the online card catalogue. The FYR team also conducted research at Highlands Public Library. Two site-related documents were found at the library – the 1983 Field Investigation

² TCEQ repaired the concrete well pad for MA-06 in April 2017. See Appendix G.

and the 1983 Feasibility Study. EPA decided to establish a permanent information repository for the Site at Highlands Public Library. Skeo staff reviewed property records online using the Harris County property records website. No deed notice was found on file for the large parcel that contains the Site.

V. TECHNICAL ASSESSMENT

QUESTION A: Is the remedy functioning as intended by the decision documents?

Question A Summary:

The OU1 source control remedy has been implemented and is functioning largely as intended to minimize human contact with waste material and reduce contaminated surface water runoff into adjacent surface waters. Excavated material was disposed of off-site and excavated areas backfilled with clean fill. However, nearly 75 percent of the estimated volume of waste and contaminated sands and soils was below the water table and left in place after excavation. It continues to impact groundwater, as well as surface water and sediment. Site vegetation is well established and maintained through ongoing O&M activities at the Site. The entrance to the Site is gated and locked. Warning signs are posted.

The OU2 remedy included long-term monitoring of the surface environment (i.e., surface water and sediment) and groundwater. The state O&M contractor has conducted water and sediment sampling semi-annually since 2011. Arsenic has been persistently detected in the middle aquifer since 2012, with TRRP PCLs exceeded in three of six middle-aquifer wells since 2012 and in one deep aquifer well in 2016. Based on the OU2 ROD stating for the middle aquifer that "if contamination does break through the clay aquitard, corrective action can be initiated before levels of concern are reached," EPA should evaluate whether the OU2 remedy should be revisited and document the evaluation. Due to the presence of contaminants above the PCLs in upper and middle aquifer monitoring wells located at the site boundary, the extent of the contaminated groundwater is not fully defined. Currently, there are no monitoring wells located off-site; these may be needed to determine the extent of the groundwater contamination.

Based on interviews, the adjacent flooded sand pit east of the Site is presumed to be used for recreational purposes (swimming, fishing). However, sampling frequency may be insufficient to evaluate potential impacts of upper aquifer groundwater to adjacent surface water and sediment. The highest concentrations of benzene have been detected in well UA-12 adjacent to the flooded sand pit.

Groundwater analytical data should also be collected to determine the current extent of the groundwater contamination in the upper aquifer and the magnitude of contaminants relative to background.

Analytic results for surface water and sediment since the previous FYR indicate that upper-aquifer groundwater is reaching surface water and adjacent sediments. However, additional study is needed to determine the potential impact of these detections to human health and the environment.

EPA drafted a deed notice in 2007. EPA should revisit the deed notice and consider updating and strengthening it to ensure long-term protectiveness, including provisions to run with the land and to address potential off-site groundwater and surface water impacts. The institutional control should also be properly filed with Harris County to ensure it is located during property record searches.

QUESTION B: Are the exposure assumptions, toxicity data, cleanup levels and RAOs used at the time of the remedy selection still valid?

Question B Summary:

Neither the OU1 or the OU2 ROD identified cleanup goals for soil, shallow groundwater, or sediment.

The OU2 ROD identified MCLs as ARARs for the middle and deep aquifers. However, recent monitoring reports have compared groundwater sampling results to TRRP Tier 1 PCLs. PCL and MCL action levels are currently the same levels for COCs at the Site. Clean Water Act Water Quality Criteria were identified as surface water ARARs in the 1984 and 1987 RODs and is considered the cleanup level. However surface water is currently compared to TRRP Tier 1 groundwater PCLs. Except for lead, where the WQS is more stringent than the PCL, PCLs and Texas Surface Water Quality Standards are currently the same for Site COCs. Sampling and monitoring plans should be updated to clarify appropriate site action levels, as identified in the RODs, to evaluate groundwater, surface water and sediment analytical results.

Vapor intrusion to indoor air was not considered as a potential exposure pathway in either ROD for the Site. Current groundwater contamination data is not available to evaluate potential off-site vapor intrusion impacts. Evaluating the current extent of the groundwater contamination in the upper aquifer and updating groundwater maps will help in determining whether vapor intrusion could be a concern for nearby properties.

QUESTION C: Has any other information come to light that could call into question the protectiveness of the remedy?

Question C Summary:

There is no additional information about the Site at this time that would call into question the protectiveness of the Site's remedy.

VI. ISSUES/RECOMMENDATIONS

Issues/Recommendations OU(s) without Issues/Recommendations Identified in the FYR: None.

Issues and Recommendations Identified in the FYR:

OU(s): 2	Issue Category: Remedy Performance					
	Issue: Data on the current extent of the groundwater contamination in the upper aquifer is not available.					
	UA-12 at t and sedime determine	he eastern boundary or ent samples in the for if the contaminated u	mer sand pit adjunct t	ditional surface water to the site to ting areas beyond the		
Affect Current Protectiveness	Affect Future Protectiveness	Party Responsible	Oversight Party/Support Agency	Milestone Date		
No	Yes	EPA/TCEQ	EPA/TCEQ	9/27/2020		

OU(s): 1, 2	Issue: No deed notice was recorded on file with Harris County. The draft deed notice contains limited information, which may not provide sufficient protection from source material left in place during excavation and contaminated groundwater. Recommendation: Revisit and update the institutional control instrument to strengthen language and ensure long-term protectiveness (e.g., make sure the institutional control runs with the land, prevents exposure to contaminated groundwater).				
Affect Current Protectiveness	Affect Future Protectiveness	Party Responsible	Oversight Party/Support Agency	Milestone Date	
No	Yes	EPA/TCEQ	EPA/TCEQ	9/27/2019	

OU(s): 2	Issue Category: Remedy Performance
	Issue: Arsenic and benzene have been persistently detected in the middle aquifer and periodically detected in the deep aquifer since the previous FYR.

· .	Recommendation: Continue to monitor and evaluate contaminants of concern (COCs) being detected more frequently in the middle and deep aquifers and determine impacts to long term protectiveness.				
Affect Current Protectiveness	Affect Future Protectiveness	Party Responsible	Oversight Party/Support Agency	Milestone Date	
No	Yes	EPA/TCEQ	EPA/TCEQ	9/27/2019	

OU(s): 2	Issue Category: Remedy Performance Issue: Perform regular sediment and surface water sampling as part of the Operations and Monitoring (O&M) activities. Surface water and sediment data have not been compared to ecological benchmarks. Local residents are presumed to use the adjacent sand pit area for recreational purposes (swimming and fishing). Recommendation: Compare surface water and sediment sample data to ecological benchmarks, or equivalent, and to appropriate human health screening values to determine if further study is needed.				
Affect Current Protectiveness	Affect Future Protectiveness	Party Responsible	Oversight Party/Support Agency	Milestone Date	
No	Yes	EPA/TCEQ	EPA/TCEQ	9/27/2020	

OTHER FINDINGS

- The OU2 ROD identified MCLs as ARARs for the middle and deep aquifers. Recent monitoring reports have compared groundwater sampling results to TRRP Tier 1 PCLs. The TRRP Tier PCLs are the same as MCLs.
- Use the most recent TRRP Tier 1 PCLs to compare groundwater sampling analytic results in the O&M
 Plan. The August 2016 Annual Groundwater Monitoring Report used the May 2011 TRRP Tier 1 PCLs
 for residential groundwater to evaluate analytic results. TCEQ issued updated PCLs in March 2016,
 however there were no changes to PCLs in 2016 that impacted the most recent sampling analytic results.
- Based on semi-annual monitoring data, some upper aquifer wells (e.g., UA-16) appear to be influenced by seasonal variations or tidal changes. Additional study would help to identify potential tidal or seasonal influences on upper aquifer groundwater.
- Ensure all monitoring well covers are locked, make repairs as necessary to barbed wire along the top of fencing surrounding wells and repost warning signs on monitoring well fences. While the main entrance gate is locked, fencing surrounds about 50 percent of the Site. Consider fencing the entire site perimeter, including the shoreline along Grennel Slough, to discourage trespassers entering the Site from adjacent water bodies.

VII. PROTECTIVENESS STATEMENT

Protectiveness Statement(s)

Operable Unit:

Protectiveness Determination:

OU1

Short-term Protective

Protectiveness Statement: The remedy for OU1 is currently protective of human health and the environment. The OU1 remedy included excavation of waste material and contaminated soil to a depth of 8 feet below ground surface and disposal at an off-site hazardous waste facility, backfilling of the excavated area with clean soil, establishing vegetation, and installation of a security fence. EPA completed source removal of site soils in 1987. For the OU1 remedy to be protective over the long term, revisit the draft institutional control instrument to ensure long-term protectiveness.

Protectiveness Statement(s)

Operable Unit:

Protectiveness Determination:

OU2

Short-term Protective

Protectiveness Statement: The remedy for OU2 is currently protective of human health and the environment. The OU2 remedy was a "no further action" remedy with long-term monitoring of surface water and groundwater. For the remedy to be protective over the long term: 1) collect additional surface water and sediment samples in the former sand pit adjunct to the site to determine if the contaminated upper aquifer is impacting areas beyond the Site and take appropriate measures to ensure protectiveness; 2) revisit the draft institutional control instrument to ensure long-term protectiveness; 3) continue to monitor and evaluate contaminants of concern (COCs) being detected more frequently in the middle and deep aquifers and determine impacts to long term protectiveness; 4) compare surface water and sediment sample data to ecological benchmarks and to appropriate human health screening values to determine if further study is needed.

Sitewide Protectiveness Statement

Protectiveness Determination:

Short-term Protective

• Protectiveness Statement: The Site remedy is currently protective of human health and the environment. For the remedy to be protective over the long term: collect additional surface water and sediment samples in the former sand pit adjunct to the site to determine if the contaminated upper aquifer is impacting areas beyond the Site and take appropriate measures to ensure protectiveness; revisit the draft institutional control instrument to ensure long-term protectiveness; continue to monitor and evaluate contaminants of concern (COCs) being detected more frequently in the middle and deep aquifers and determine impacts to long term protectiveness; compare surface water and sediment sample data to ecological benchmarks and to appropriate human health screening values to determine if further study is needed.

VIII. NEXT REVIEW

The next FYR Report for the Highlands Acid Pit Superfund site is required no later than five years from the completion date of this review.

APPENDIX A - REFERENCE LIST

Annual Groundwater Monitoring Report December 2015 and May 2016 Sampling Events. Highlands Acid Pit Federal Superfund Site. Texas Commission on Environmental Quality. August 2016.

Water and Sediment Monitoring Data spreadsheet from November-December 2016 sampling event. Highlands Acid Pit Federal Superfund Site. Texas Commission on Environmental Quality. December 2016.

Final Report for Highlands Acid Pit, Highlands, Texas - Groundwater Contamination Evaluation. United States Environmental Protection Agency Region 6. April 1987.

First Five-Year Review, Highlands Acid Pit Superfund Site. United States Environmental Protection Agency Region 6. November 1995.

Fourth Five-Year Review Report for the Highlands Acid Pit Superfund site. United States Environmental Protection Agency Region 6. September 27, 2012.

Health Assessment, Highland Acid Pit (NPL) Site. Highlands, Harris County, Texas. Agency for Toxic Substances and Disease Registry. December 7, 1988.

Institutional Controls: A Site Manager's Guide to Identifying, Evaluating and Selecting Institutional Controls at Superfund and RCRA Corrective Action Cleanups. United States Environmental Protection Agency. 540-F-00-005. September 2000.

National Primary Drinking Water Regulations. Maximum Contaminant Levels Table. United States Environmental Protection Agency. 2009. https://www.epa.gov/ground-water-and-drinking-water/national-primary-drinking-water-regulation-table. Accessed January 10, 2017.

Operations and Maintenance Plan, September 2011, Highlands Acid Pit, State Superfund Site, Contract No. 582-10-91049, Work Order No. 246-0023. URS. September 23, 2011.

Record of Decision, Highlands Acid Pit, OU1. United States Environmental Protection Agency Region 6. June 25, 1984.

Record of Decision, Highlands Acid Pit, Groundwater Operable Unit. United States Environmental Protection Agency Region 6. June 26, 1987.

Remedial Action Feasibility Study, Highlands Acid Pit, Highlands, Texas. Texas Commission on Environmental Quality. December 1983.

Second Five-Year Review Report for the Highlands Acid Pit. United States Environmental Protection Agency Region 6. September 27, 2002.

Texas Risk Reduction Program, Protective Concentration Levels. Texas Commission on Environmental Quality. March 2016.

Third Five-Year Review Report, Highlands Acid Pit Superfund Site. United States Environmental Protection Agency Region 6. September 28, 2007.

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APPENDIX B – SITE CHRONOLOGY

Table B-1: Site Chronology

Event	Date
Texas Commission on Environmental Quality (formally known as TDWR)	May 1978
received a telephone	
complaint concerning the Site.	1000
TDWR analysis of sludge, sediment, and stormwater samples found low pH,	September 1978
concentrations of metals, high chemical oxygen demand and high total	
organic carbon.	0.4-11001
TDWR analysis of groundwater samples found VOCs and heavy metals.	October 1981
EPA proposed adding the Site to the NPL	June 1982
EPA and TCEQ entered into a Cooperative Agreement for a state-led RI/FS.	September 1982
EPA added the Site to the NPL.	September 1983
State-led Site Investigation Report is completed and indicates extensive	December 1983
contamination of site media with heavy metals and VOCs.	D 1 1003
State completed the Site's RI/FS Report.	December 1983
EPA finalized the ROD for OU1.	June 1984
The Site's remedial action design and site-safety plan was completed.	January 1985
EPA finalized the ROD for OU2.	June 1987
TCEQ conducted O&M activities at the Site.	July 1988 to July 1996
TCEO collected groundwater samples from the private well of	August 1994
the Baytown Boat Club north of the Site and concluded that the water	
quality was not impacted based on analyzed constituents.	1000
TCEQ assumed responsibility for 30 years of O&M activities at the Site.	June 1993
EPA and TCEQ agreed on a revised well development plan, which proposed	May 1996
10 additional monitoring wells with a revised monitoring strategy and an	
expansion of the sampling analysis program.	* 1006
EPA completed the Site's first Five-Year Review (FYR) Report.	June 1996
EPA contractor conducted additional groundwater sampling activities at the	April 1997 to December 1999
Site.	
TNRCC completed the Site's revised O&M Plan.	September 2001
EPA completed the Site's second FYR Report.	September 2002
EPA drafted the site deed notice, which was recorded by a public notary.	July 18, 2007
EPA completed the Site's third FYR Report.	September 2007
TCEQ selected URS as the Site's O&M contractor.	2011
URS completed the Site's O&M Plan.	September 2011
EPA completed the Site's fourth FYR Report.	September 2012

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APPENDIX C – SITE BACKGROUND

Geology

The Site is located on the banks of the San Jacinto River and is geologically situated within recent meanderbelt alluvial sediments (upper sand). This alluvial material ranges in thickness from 18.5 feet to 26.0 feet, with an average thickness of 22.5 feet.

The recent alluvium overlies the Beaumont Clay, and the sharp contact between the two formations is evident. This clay deposit is about 30 feet thick across the entire site area. Samples of the upper 1 to 6 feet of the clay were typically stiff, very slightly silty. Below this clay interval lies a 23-foot to 26-foot thick sand interval (middle sand). Below this sand interval another clay deposit was encountered with a thickness of about 25 feet. Underlying this clay interval, a sand deposit (lower sand) was encountered with an average thickness of 16 feet.

Hydrogeology

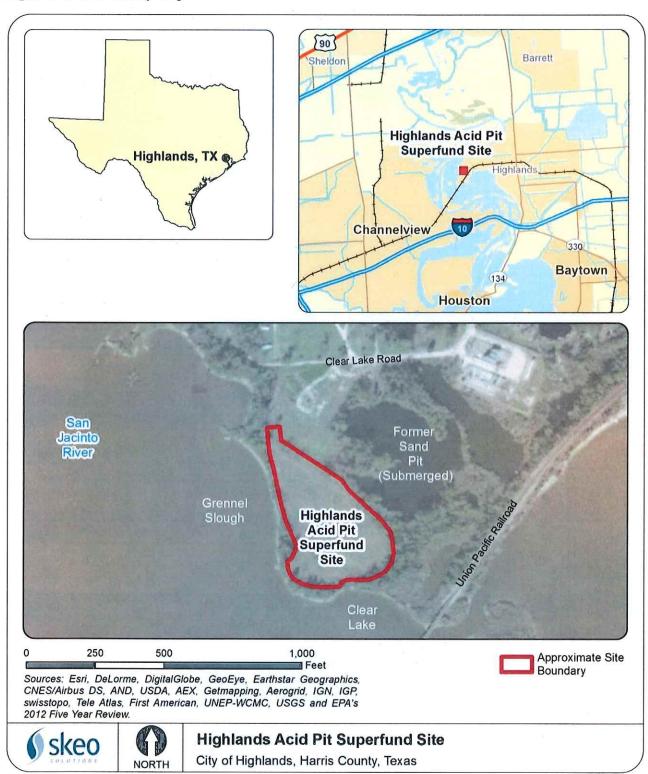
The permeability of the upper alluvial sand ranges from 4.0 to 8.0 feet/day. Groundwater elevations in the upper sand are strongly correlated with the level of the San Jacinto River, indicating that the river and the upper aquifer are hydraulically connected. Due to this connection, groundwater flow varies with the level of the river. At high tide, the primary flow directions are east toward the sand pits and south toward Clear Lake. The groundwater flow to the west, toward the San Jacinto River, is small. About 45 percent of the groundwater leaving the Site discharges into the sandpits. The remaining 55 percent discharges to Clear Lake and Grennel Slough with most flowing toward Clear Lake. At low tide, similar flow patterns are evident. However, the groundwater elevations and gradients are lower and there is some inland flow to the southern portion of the Site. Groundwater elevations for wells completed in the upper sand range from 1.64 to 2.25 above mean sea level.

The groundwater for the region is provided by two aquifers, the Chicot and the Evangeline. The Chicot Aquifer is a drinking water aquifer and is made up of the four Pleistocene age formations (Beaumont, Montgomery, Bently and Willis). At the Site, the Chicot extends to a depth of about 700 feet. The identified aquifers underlying the site are termed the upper, middle and lower. The middle and lower aquifer/sands at the Site are in the Chicot aquifer; the upper aquifer/sands consist of alluvium associated with the San Jacinto River. The Evangeline Aquifer is below the Chicot.

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		унованитурайски изацереверт
		pottessioninistellariamente pla

APPENDIX D - SITE MAPS

Figure D-1: Site Vicinity Map



Disclaimer: This map and any boundary lines within the map are approximate and subject to change. The map is not a survey. The map is for informational purposes only regarding EPA's response actions at the Site.

	•			
		·		
	·			
•				

${\bf APPENDIX} \; {\bf E} - {\bf SITE} \; {\bf INSPECTION} \; {\bf CHECKLIST}$

FIVE-YEAR REVIEW SITE	INSPECTION CH	ECKLIST
I. SITE INF	ORMATION	
Site Name: Highlands Acid Pit	Date of Inspection: 12/05/	2016
Location and Region: Highlands, Texas 6	EPA ID: TXD980514996	
Agency, Office or Company Leading the Five-Year Review: EPA	Weather/Temperature: <u>R</u>	ainy, 50°F
Remedy Includes: (Check all that apply) Landfill cover/containment Access controls Institutional controls Groundwater pump and treatment Surface water collection and treatment Other: Surface water and sediment sampling		
Attachments: Inspection team roster attached	Site map attached	
II. INTERVIEWS	(check all that apply)	
1. O&M Site Manager Name Interviewed at site at office by phone Pl Problems, suggestions Report attached:	Title	Date
2. O&M Staff Name Interviewed at site at office by phone Problems/suggestions Report attached:		Date
3. Local Regulatory Authorities and Response A response office, police department, office of pub recorder of deeds, or other city and county office Agency Harris County Pollution Control Service Contact Bob Allen Din Name Tit Problems/suggestions Report attached:	lic health or environmental hes). Fill in all that apply. Solution Example 2 Example 2	offices, emergency ealth, zoning office, Phone No.
	<u>ject</u> <u>11/18/2016</u> <u>nager</u> Date e	Phone No.
Agency Contact Name Titl Problems/suggestions Report attached:		Phone No.
Agency Contact Name Titl Problems/suggestions Report attached:		Phone No.

	ContactName	Title	Date	Phone No.	
	Problems/suggestions Re			2 HOHO 130.	
4.	Other Interviews (optional)	Report attached:			
Local re	sidents, Site O&M contractor				
	III. ON-SITE DOCU	MENTS AND RECO	RDS VERIFIED (check	call that apply)	
1.	O&M Documents	· — — — — — — — — — — — — — — — — — — —			
	O&M manual	Readily available	Up to date	⊠ N	J/A
	As-built drawings	Readily available	Up to date	N 🖂	J/A
	Maintenance logs	Readily available	Up to date	1 🖾	V/A
	Remarks:			Water 100	
2.	Site-Specific Health and S	Safety Plan	Readily available	Up to date	⊠ N/A
	Contingency plan/emerg	ency response plan	Readily available	Up to date	⊠ N/A
	Remarks:	D • •	□ p		—————————————————————————————————————
3.	O&M and OSHA Trainin		Readily available	Up to date	⊠ N/A
	Remarks:				
4.	Permits and Service Agre	ements			⊠ 31/4
	Air discharge permit		Readily available	Up to date	⊠ N/A
	Effluent discharge		Readily available	Up to date	⊠ N/A
	☐ Waste disposal, POTW		Readily available	Up to date	⊠ N/A
	Other permits:		Readily available	Up to date	⊠ N/A
	Remarks:				K-7
5.	Gas Generation Records		Readily available	Up to date	⊠ N/A
	Remarks:			0.0000000000000000000000000000000000000	
6.	Settlement Monument Re	ecords	Readily available	Up to date	⊠ N/A
	Remarks:			,	
7.	Groundwater Monitoring		Readily available	Up to date	□ N/A
	Remarks:				
8.	Leachate Extraction Reco	ords	Readily available	Up to date	⊠ N/A
	Remarks:				
9.	Discharge Compliance Ro	ecords			
	☐ Air	Readily available	Up to date		N/A
	☐ Water (effluent)	Readily available	Up to date	\boxtimes	N/A
	Remarks:				
10.	Daily Access/Security Log	gs	Readily available	Up to date	N/A

	Remarks:			
		IV. O	&M COSTS	
1.	O&M Organizatio	n		
	State in-house		Contractor for	or state
	PRP in-house		Contractor fo	r PRP
	Federal facility i	n-house	Contractor fo	r Federal facility
2.	O&M Cost Record	İs		
	🛚 Readily availabl	e	Up to date	
	Funding mechan	ism/agreement in place	Unavailable	
	Original O&M cost	estimate: B	reakdown attached	
		Total annual cost b	y year for review perio	od if available
	From: <u>09/2011</u>	To: <u>08/2012</u>	\$88,000	Breakdown attached
	Date	Date	Total cost	
	From: <u>09/2012</u>	To: <u>08/2013</u>	<u>\$91,000</u>	☐ Breakdown attached
	Date	Date	Total cost	
	From: <u>09/2013</u>	To: <u>08/2014</u>	\$90,000	Breakdown attached
	Date	Date	Total cost	
	From: <u>09/2014</u>	To: <u>08/2015</u>	<u>\$77,000</u>	Breakdown attached
	Date	Date	Total cost	
	From: <u>09/2015</u>	To: <u>08/2016</u>	<u>\$80,000</u>	Breakdown attached
	Date	Date	Total cost	
3.	Unanticipated or U	nusually High O&M	Costs during Review	Period
	Describe costs and t			
	V. ACCES	S AND INSTITUTIO	NAL CONTROLS	X Applicable ☐ N/A
A. I	encing			
1.	Fencing Damaged		· · · · · · · · · · · · · · · · · · ·	Gates secured N/A
	Remarks: Entrance	gate in good shape. So	me perimeter fencing o	lamaged. Some fencing around wells
	showing signs of we		· · · · · · · · · · · · · · · · · · ·	<u> </u>
 	Other Access Restriction			on shown on site map \[\sum N/A
1.	Signs and Other S	ecurity Measures	_	atrance and on fencing surrounding site
	wells. Some well fer	signs in Spanish and E ice signs had fallen off,	been removed or beer	n blown off.
C. 1	Institutional Controls (ICs)		

1.	Implementation and Enforcement				
	Site conditions imply ICs not properly im	_	☐ Yes	⊠ No l	□ N/A
	Site conditions imply ICs not being fully		☐ Yes	☐ No I	⊠ N/A
	Type of monitoring (e.g., self-reporting, o	drive by): <u>self report</u>			
	Frequency: <u>as needed</u> Responsible party/agency: <u>TCEQ, EPA, s</u>	nite and a			
	Contact	site owners			
	. Name				
	- 1	Title	Date	Pł	ione no.
	Reporting is up to date		∑ Yes	No	□N/A
	Reports are verified by the lead agency		⊠ Yes	☐ No	□ N/A
	Specific requirements in deed or decision	documents have been met	Yes Yes	⊠ No	□ N/A
	Violations have been reported		Yes Yes	☐ No	⊠ N/A
	Other problems or suggestions: Repor				
	Copy of deed notice was not found in sear	ch of Harris County online p	roperty rec	ords.	
2.	Adequacy] N/A
	Remarks: A copy of the deed notice is inc during research using the Harris County of with Harris County on March 6, 2006, but EPA or site owners may not have recorded	nline property records. The days record was found on file	eed notice	atataa it wa	
D.	General				
1.	Vandalism/Trespassing	hown on site map 🔲 No	vandalism	evident	
	Remarks: <u>Fence bent/damaged both by SW There was also refuse located by SW-02.</u>	V-02 and east of UA10, in the	e south/sou	theast part	of the Site,
2.	Land Use Changes On Site	N/A	***		
	Remarks: Site is not in use except for samp	oling and monitoring activition	es.		
3.	Land Use Changes Off Site	N/A			
	Remarks: The adjacent northern parcel is s operating north of the Site.	till used for oil and gas produ	action. The	boat club i	is still
	VI. GENER	AL SITE CONDITIONS			
A.]	Roads				
1.	Roads Damaged	nown on site map Roa	ds adequat	e F] N/A
	Remarks: No roads are located on site.		-	_	
В. (Other Site Conditions				
	Remarks:		***		
	VII. LANDFILL COV	ERS Applicable	⊠ N/A	***	
A. I	Landfill Surface				
1.	Settlement (low spots)	1 shown on site map	Settleme	nt not evid	ent
	Area extent:		Depth:		
	Remarks:	_	· F		

2.	Cracks	Location shown on site map	Cracking not evident
•	Lengths:	Widths:	Depths:
	Remarks:		
3,	Erosion	Location shown on site map	Erosion not evident
,	Area extent:		Depth:
	Remarks:		
4.	Holes	Location shown on site map	Holes not evident
	Area extent:		Depth:
	Remarks:		
5.	Vegetative Cover	Grass	Cover properly established
,	☐ No signs of stress	Trees/shrubs (indicate size and lo	ocations on a diagram)
	Remarks:		
6.		, armored rock, concrete)	□ N/A
	Remarks:		
7.	Bulges	Location shown on site map	Bulges not evident
	Area extent:		Height:
	Remarks:		
8.	Wet Areas/Water Dan	nage Wet areas/water damage not	evident
	☐ Wet areas	Location shown on site map	Area extent:
	Ponding	Location shown on site map	Area extent:
	☐ Seeps	Location shown on site map	Area extent:
	Soft subgrade	Location shown on site map	Area extent:
	Remarks:		
9.	Slope Instability	Slides	Location shown on site map
- 1	☐ No evidence of slop	e instability	
	Area extent:		
	Remarks:		
B. F		pplicable N/A	
		d mounds of earth placed across a steep la relocity of surface runoff and intercept an	andfill side slope to interrupt the slope d convey the runoff to a lined channel
1.	Flows Bypass Bench		N/A or okay
,	Remarks:		
2.	Bench Breached	Location shown on site map	□ N/A or okay
4.	Remarks:	_	
3.	Bench Overtopped	Location shown on site map	N/A or okay
	Benen O terropped	_	

C. I	Channel lined with erosion cont slope of the cover and will allow cover without creating erosion gu		m anauth	ions tha	t descend down the steep side to move off of the landfill
1.	Settlement (Low spots)	Location sh	own on site map		No evidence of settlement
	Area extent:		-		oth:
	Remarks:			DC _F	
2.	Material Degradation	Location she	own on site map		No evidence of degradation
	Material type:		****		extent:
	Remarks:			11100	extent,
3.	Erosion	Location sho	wn on site map		No evidence of erosion
	Area extent:				th:
	Remarks:			Бор	
4.	Undercutting	Location sho	wn on site map		lo evidence of undercutting
	Area extent:		*		h:
<u></u>	Remarks:			- - - p -	
5.	Obstructions Ty	pe:		— — — — — — — — — — — — — — — — — — —	o obstructions
	Location shown on site map		Area extent:	··	o contactions
	Size:		-		
	Remarks:				
6.	Excessive Vegetative Growth		Гуре:		
	☐ No evidence of excessive gro				
	☐ Vegetation in channels does n	ot obstruct flo)W		
	Location shown on site map		Area extent:		
	Remarks:				
. Cov	_	licable 🖂	N/A		
1.		Active		Pass	nivo.
	Properly secured/locked	Functioning	Routinely sai		Good condition
	Evidence of leakage at penetra	_	Needs mainte	•	☐ N/A
***	Remarks:			, idiioc	LJ IV/A
: .	Gas Monitoring Probes				
	Properly secured/locked	Functioning	Routinely san	ınled	Good condition
	Evidence of leakage at penetra	_	☐ Needs mainte		☐ N/A
	Remarks:				
	Monitoring Wells (within surface	area of landfil	1)		
		Functioning	Routinely sam	pled	Good condition
	Evidence of leakage at penetrat	_	☐ Needs mainter	_	COOG CONGINOD

Remarks:				
TYT N. Y shoto				
	☐ Functioning	Routinely	sampled	Good condition
Evidence of leakage at pe		☐ Needs ma	intenance	□ N/A
Remarks:				
	Located	Routinely	surveyed	□ N/A
	_			·
Remarks:	Applicable	⊠ N/A		
1. Gas Treatment Facilities			 	
☐ Flaring	Thermal destr	action		Collection for reuse
Good condition	☐ Needs mainter	nance		
Remarks:				
2. Gas Collection Wells, Mani				
Good condition	☐ Needs mainte	nance	•	
Remarks:				
3. Gas Monitoring Facilities (e.g., gas monitoring	of adjacent hor	nes or build	ings)
Good condition	Needs mainte		\square N/A	A
Remarks:				
F. Cover Drainage Layer	Applicab	le 🛛 N/A		
1. Outlet Pipes Inspected	☐ Functioning		\square N/A	Λ
Remarks:				
2. Outlet Rock Inspected			□ N/A	A
Remarks:				
G. Detention/Sedimentation Pond	s Applical	ole	⊠ N/A	
1. Siltation Area e		Depth:	-	□ N/A
Siltation not evident				
Remarks:				
	extent:	Depth:		
Erosion not evident				
Remarks:		· .		
	nctioning			□ N/A
Remarks:				
L	nctioning			□ N/A
Remarks:	-			
H. Retaining Walls	Applicable	N/A		
II. Vetamine Cana	Location show			eformation not evident

	Horizontal displacement:	Vortical	liant
	Rotational displacement:		lisplacement:
	Remarks:		
2.	Degradation	Location shown on site map	Dogga deti-
	Remarks:	and an on one map	Degradation not evident
I. P	erimeter Ditches/Off-Site Dis	charge	⊠ N/A
1.	Siltation	Location shown on site map	Siltation not evident
	Area extent:	1	Depth:
	Remarks:	•	
2.	Vegetative Growth	Location shown on site map	□ N/A
	☐ Vegetation does not impe	•	
	Area extent:		Type:
	Remarks:		•
3.	Erosion	Location shown on site map	Erosion not evident
	Area extent:		Depth:
	Remarks:		
1.	Discharge Structure	☐ Functioning	□ N/A
	Remarks:		
III.	VERTICAL BARRIER WA	LLS	⊠ N/A
l.	Settlement	Location shown on site map	Settlement not evident
	Area extent:		Depth:
	Remarks:		
•		Type of monitoring:	
	Performance not monitore	d	
	Frequency:		Evidence of breaching
	Head differential:		
	Remarks:		
	ROUNDWATER/SURFACE		icable N/A
	oundwater Extraction Wells,	·	Applicable N/A
•	Pumps, Wellhead Plumbing	and Electrical	
	Good condition All	required wells properly operating	☐ Needs maintenance ☐ N/A
	Remarks:		
	Extraction System Pipelines,	Valves, Valve Boxes and Other A	Appurtenances
		eds maintenance	
	Remarks:		
	Spare Parts and Equipment	1100	

-	Readily available Good condition Requires upgrade Needs to be provided
	Remarks:
B. Sur	rface Water Collection Structures, Pumps and Pipelines Applicable N/A
1.	Collection Structures, Pumps and Electrical
	Good condition Needs maintenance
	Remarks:
2.	Surface Water Collection System Pipelines, Valves, Valve Boxes and Other Appurtenances
	Good condition Needs maintenance
	Remarks:
3.	Spare Parts and Equipment
	Readily available Good condition Requires upgrade Needs to be provided
<u> </u>	Remarks:
C. Ti	reatment System
1.	Treatment Train (check components that apply) Collywater separation Bioremediation B
	Metals removal
	☐ Air stripping ☐ Carbon adsorbers
	Filters:
	Additive (e.g., chelation agent, flocculent):
	Others:
	Good condition Needs maintenance
	Sampling ports properly marked and functional
	Sampling/maintenance log displayed and up to date
	Equipment properly identified
	Quantity of groundwater treated annually:
	Quantity of surface water treated annually:
	Remarks:
2.	Electrical Enclosures and Panels (properly rated and functional) Display
	□ N/A □ Good condition □ Needs maintenance
	Remarks:
3.	Tanks, Vaults, Storage Vessels
	☐ N/A ☐ Good condition ☐ Proper secondary containment ☐ Needs maintenance
	Remarks:
4.	Ci Annuntananess
1	□ N/A □ Good condition □ Needs maintenance

	Remarks:
5.	Treatment Building(s)
	□ N/A □ Good condition (esp. roof and doorways) □ Needs repair
	Chemicals and equipment properly stored
<u> </u>	Remarks:
6.	Monitoring Wells (pump and treatment remedy)
	Properly secured/locked Functioning Routinely sampled Good condition
	☐ All required wells located ☐ Needs maintenance ☐ N/A
	Remarks;
D. M	lonitoring Data
1.	Monitoring Data
1.	
	☐ Is routinely submitted on time ☐ Is of acceptable quality
2.	Monitoring Data Suggests:
	Groundwater plume is effectively contained Contaminant concentrations are declining
	onitored Natural Attenuation
1.	Monitoring Wells (natural attenuation remedy)
	☑ Properly secured/locked ☑ Functioning ☑ Routinely sampled ☑ Good condition
	Remarks: Wells appear to be in good condition. All wells were surrounded by locked fences. Most well
	of the inspection. Most wells were labeled, but many labels were weathered and difficult to read and
	volta de replaced to de more easily identified, narticularly in areas where wells are already in
-	put for Mar oo is being undercut by erosion.
f ther	and condition of any facility associated with the arrest of the physical
nature	and rather associated with the remedy. An example would be soil vapor extraction
A.	AI. OVERALL OBSERVATIONS
	Implementation of the Remedy Describe issues and observations relating to whether the remedy is effective and functioning as designed. Begin with a brief statement of what the remedy is effective and functioning as designed.
	- 10 m man a orior statement of what the remember is degraned to accomplish to a 1
	Cleanup included excavation of contaminated soil above the water table (8 feet below ground surface) and disposal at an off-site hazardous waste facility, backfilling of the excavated area with clean soil,
	determinent of vegetation, and installation of a security fence. The new all the second of the secon
	The state of the s
	control was included in the 2012 FYR, the deed notice for the Site was not found during online research of Harris County property records. The rest of the remedy appeared to be functioning as designed.
<u> </u>	Adequacy of Odely)
	Describe issues and observations related to the implementation and scope of O&M procedures. In
	O&M activities at the Site include semi-annual sampling of groundwaters and the site include semi-annual sampling of groundwaters and the semi-annual sampling of groundwaters are semi-annual sampling of groundwaters and the semi-annual sampling of groundwaters are se
	generated during sampling. Fencing around wells was generally in good condition and locked. A few well

covers were missing locks, but should not impact short-term protectiveness. The concrete pad for one well, MA-06 (see photo), was showing significant signs of erosion around and under the pad. All site wells were located, but labeling could be updated. No IDW waste was found on site, which was an issue during the 2012 FYR inspection. Vegetation appeared to be in good condition and was well established across most of the Site. Due to heavy recent rains, there were some small areas of erosion seen that should be addressed during the next O&M event, but the erosion channels were not deep enough to impact current protectiveness. Trash and other debris were found along the perimeter of the Site, both along the shoreline and in the woods along the shore, suggesting potential trespassing on site. The site perimeter fence, which extends along the eastern boundary from the entrance gate down to SW-2, needs repair in places, and could potentially be extended along the western boundary to dissuade trespassing on site from neighboring water bodies.

Early Indicators of Potential Remedy Problems C.

Describe issues and observations such as unexpected changes in the cost or scope of O&M or a high frequency of unscheduled repairs that suggest that the protectiveness of the remedy may be compromised

Outside of the soil erosion seen around and under the concrete pad for well MA-06, there were no other current indicators of potential remedy problems identified during the inspection.

Opportunities for Optimization D.

Describe possible opportunities for optimization in monitoring tasks or the operation of the remedy. N/A

APPENDIX F - PRESS NOTICE



Highlands Acid Pit Superfund Site Public Notice U. S. Environmental Protection Agency, Region 6

November 2016

The U.S. Environmental Protection Agency (EPA) Region 6, in cooperation with the Texas Commission on Environmental Quality, will be conducting the fifth five-year review of remedy implementation and performance at the Highlands Acid Pit Superfund site (Site) in Highlands, Texas. In the 1950s, the area was used for the disposal of industrial waste sludge, believed to be spent sulfuric acid from oil and gas refining processes. Waste disposal activities contaminated soil and groundwater with hazardous chemicals.

Cleanup included excavation and disposal of contaminated soil at an off-site hazardous waste facility, backfilling of the excavated area with clean soil, establishment of vegetation, and installation of a security fence. The remedy also included monitored natural attenuation, institutional controls, long-term maintenance and groundwater monitoring. Site maintenance activities and groundwater monitoring are ongoing. The five-year review will

determine if the remedies are still protective of human health and the environment. The five-year review is scheduled for completion in September 2017.

The report will be made available to the public at the following local information repository:

Highlands Public Library, Stratford Branch 509 Stratford Street Highlands, Texas 77562

Site status updates are available on the Internet at http://www.cpa.gov/superfund/highlands-acid-pit

All media inquiries should be directed to the EPA Press Office at (214) 665-2200

For more information about the Site, contact:

Stephen Pereira/Remedial Project Manager (214) 665-3137 or 1-800-533-3508 (toll-free) or by email at pereira_stephen@epa.gov

Bdward Mekeel/Community Involvement Coordinator (214) 665-2252 or 1-800-533-3508 (toll-free) or by email at mekeel.edward@epa.gov

APPENDIX G – SITE INSPECTION PHOTOS

After Cleanup



Gated entrance to the Site, circa 2001



Gated entrance to the Site



View south, looking across the Site



Wells DA-05 and UA-06 (from left to right)



Well UA-15



Well DA-06



Well UA-16



Well MA-03, located near SW-1



Sign for location of surface/sediment sampling area 1 (SW-1)



Well MA-06, with faded label



Soil erosion under concrete pad for MA-06



Pad for MA-06, repaired in April 2017



Well UA-11 in the middle of the Site



Well MA-07, with dead vegetation on the fence



Well DA-01, no lock on the well cover, well secured with locked plug



SW-2, surface water and sediment sampling location, along the southern site boundary



Wells UA-10 (left) and MA-02





Wells MA-08A (left) and DA-08A



Well UA-14



Wells DA-02, MA-05 and UA-12 (from left to right)



Well DA-02, with faded label and missing cover lock, well secured with locked plug



Well MA-05



SW-3, surface water and sediment sampling location, along the eastern site boundary



Warning signs posted on well fences had fallen or been blown down for several well areas



Damage to barbed wire at the top of fence surrounding DA-06



Small area of ponding on site southeast of UA-12 after heavy rains



Area of surface erosion due to heavy rains between MA-08A and UA-14



Border fence near UA-10 with damage from a fallen tree



Litter/debris near SW-02



Tire dumped in woods near UA-10



Oil production operation on property east of the Site



Baytown Boat Club, located north of the Site

APPENDIX H – DATA TABLES

Table 1 2015 Semi-Annual Groundwater Monitoring Report Groundwater Analytical Data

Highlands Acid Pit Highlands, Harris County, Texas

					Highlands,	Harris Cour	ıty, rex	as							
			UA-66												
ARALYTE	Tiese Tier i Arassiential PCLS ³ FFGW High.	UA-95 HAPOM-UA-06 98/05/2011 1108/225-05	UA-06 HAPOM-UA-06-0 11/17/2011 1111650-05	UA-06 HAP-UA06-070512-0 0705/2012 1207231-03	UA-06 HAP-UA-06-112612-0 11/28/2012 12111017-20	UA-06 HAP-UA06-061913-0 D6/19/2013 1306861-01	UA-05 HAP-UA05- KOY2013 02/19/2014 14021012-01	VA-96 HAP-UA06-JUL2014 07/19/2014 14070538-17	UA-DS HAF-UADS (BIO 1 1/13/2014 14/10/545-14	UA-06 HAP-UA06-090 5/14/2015 15050676-14	UA-06 HAP-UA06-100 12/17/2015 HS15/20827-11	UA-06 HAP-UA06-110 679/2016 HS16070019-16			
					700				100	135.55					
O DIKAORO BRTAJOV	OMP GUNDS (20 Q.E.)						l		14.414		3 4 5 4 5 4 5 4				
Berrere	8 905	0.5	0.93	0,11	1,0	0.0089 UH1	0.00083 J	0.0000	<0.00020 %	0.0002	0 0016 UH-RB,FB	0.0002 J			
Edylaterzene	0.70	<0.00010	<0.00010	<0.00030	<0 00030	<0.00030	<0.00030	<0.00030	00030 <0.00030		<0.00030 U	<0.00030 U			
Tokiene	1.0	0.00013 0.0*	0.00020 J	<0.00030	<0 00030	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020 U	<0.00030 A			
Sylenes, total 10 \$.0011.4		\$.001£J	0.0022 3	<0.00090	<0.00030	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050 U	<0.00056 V			
	1				100.53										
SEMI-YOLATILE ORGAN	NIC COMPOUNDS (mg/L)														
Přenol	7.3	6 00026 U*	0.00081 Jr	0 00011 0*	0.0033 JL*	<9 000050	<0.000032	<0.00044 UJL*	<0.000036 FMT-HJ.	<0.000035	<0.000035 U	<0.000035U			
Pyridine	0.024	<8 00010 W.	<0.00010 f/la	0.00062 J*	0.00029 JL*	<0.00010	<0.000018	<0.0024 UJU.	<0.000000 tUL-HT	<0.000030	<0.000030 U	<0.000030 VJL-MS/S			
	<u> </u>														
METALS (mgL)	1				<u> </u>	13 V					77				
Arsevic	0.010	0.0068	6.0136	0.005999	0.0226	0.0247	0.003@2.3	0.0032	0.00365.3	0.0024 .	0.00443.1	0.01(3)5HRB			
Barium	2.0	0.052	G.0453	0.0510	0.0306	0.0493	0.1040	0.050	0,0778	0.1600	0.140	0,110			
Cadmium	0 0050	<0.00000	<0.00000	< B 000000	<0.00080	<0.00080	<0.000a0	L 92000.0	40 000880	<0.00080	<0.000200 U	0.000202 J			
Chromium	8.10	0.00197 J	9.00810	0.091923	0.0114	0.001BH J	<0.0010	0.00036J	<0.00100	<0.0010	0.000767 UH- MB,RB,CCB	0.000954 UH #/E			
Lead	0.015	O7000 0>	0 00344 U*	0.00132 J	0.00483J	0.002ET J	0.00305 J	0.00028 J	<0.000700	0.0014	C00101 J	600136 J			
Mercury	8.0020	<0.000042	<0.000042	<0.000842	<0.000042	<0.000042	<0.000040	L-920000.0	<0.0000400	<0.000040	<0.0000400 U	<0.00000000 U			
Scientura	0.050	0.00000	0.00768	1, 96000.0	0.0147	0.00214 UH*	9.00112 J	<0.0011	<0.00100	0.0011	<0.001100	<0.0011DU			
Stytes	0.12	<0.00080	<0.00080	< 0.00086	<0.09080	<0.00080	<0.00000	<0.000056	<0.000000	<0.00080	< 0.0002200 U	40.000260U			
OTHER															
Sulfate	HA	570	1,080	241	1,110	195	73	130	78.8	B.69	78.5	74.6			
Total Dissolved Solids	HA.	1,580	2,550	1,540	2,630	1,080	1,140	820	758	1,200	B30	758			

Table 1 2015 Semi-Annual Groundwater Monitoring Report Groundwater Analytical Data

Highlands Acid Pit Highlands, Harris County, Texas

					nıgı	liai lus,	TOHIS!	county rex	(aə							
	TRRP Ter I Residential PCLS* **GW mg/L		UA-1G													
AKALYTE		UA-10 HAPOM-UA-10 08/05/2011 11082/25-06	UA-10 HAPOM-UA-10-0 19/17/2011 11/16/20-11	UA-10 HAPOM-UA-10-1 (1/17/2011 1111656-12	UA-10 HAP-UA10-070512-0 07/05/2012 1207231-11	UA-10 HAP-UA-10- 070512-1 07/05/2012 1207231-12	112812-0 11/28/2012	UA-10 HAP-UA10-061913- 0 06/19/2013 1306861-12	UA-10 HAP-UA-10- HOV2013 02/19/2014 14021012-02	VA-18 HAP-UA10 JUL2014 07/11/2014 14070538-19	UA-10 HAP-UA10-090 11/14/2014 14110545-15	UA-10 (DUP) HAP-UA 10-061 11/14/2014 141 (0545-16	UA-10 HAP-UA10-090 05/14/2015 15050676-22	UA-10 HAP-UA10-100 12/17/2015 HS15120027- 12	UA-10 HAP-UA10-1 6/30/2016 HS160/70019	
YOLATILE GROANIC CO	IMPOUNDS (mgl.)															
Bergere	0.004	9,9	125	2.7.5	23	2.0	8.0	41	0.61	a.	3.1	2.9	0.00480	24	250.0	
Emylberzene	0.76	<0.50010	<0.00050	<0.0030	<0.0015	<0.0015	<0.0015	< 0.0015	<0.00030	<0.0030	<0.0030	<0.0030	<0.00030	<0.0030 V	<0.00030 €	
Tolvene	1.0	0.012 J	0.00083 J	Letos.p	<0.0015	<0.0015	0,0009	0/550.0	0.00037 J	0.0095 J	0.012	9,012	<0.00020	0.913	<0.00020∜	
Xytenes, liokat	16	0,032,3	0.0051 J	0.011 J	0.0053 J	Le100.0	0.011	0.012	0,0018	9.016	<0.0050	<9 6050	<0.00030	0.027 J	<0.00050 U	
SEMI-YOLATILE GROW	(IC COMPOUNDS (mgl.)						<u> </u>					ļ				
Phend	7.3	0.0026	0.0036.r	0.0074 J	T. 810.0	1,010.0	0.0086 JL*	0.0073	0,0043	6.017 JL*	0.0026 AL-SUR, FD*	0.0088 .L BUR, FD*	<0.0000351/L- SUR, AS/SC	0.00028	<0.000036 U	
Pyridine	0.024	1.87000.0	4.00000 J	0.0012 5	0.21 .F	0.29J	0'0045 'IF,	0.0074	0.037	0.29 JL	0.038 JL LCS, FO*	0.0007 JR. L.CS, FD*	0.000064 JL- MS/S ()	0.020	<0.0000000 UJ GEVEN	
									ļ							
METALS (mg/L)	Т					<u> </u>								0.0308	0,00941 UH-	
Arseric	0.010	0A772J	0.0142	0.0149	8.0130	0.0125	0.0427	0.0301	0.0208	6.0080	0.0639	0.0624	0.027	100000000000000000000000000000000000000	AM,RB	
Badum	2.0	0,0443.3	0.0574	0.0637	0,0559	0.0562	0.0424	0.070 8	0.0583	0.030	0.0730	0.0548	0.069	0.0603	0.0929	
Cadmium	0.0050	<0.0080	<0.00090	<0.00090	<0.00080	<0.00000	0.00206	0.00177 J	40.0D16	0.00037 J	<0.00800	<0.000000	<0.00080	0,0020T J	0.000342 J	
Ctromium	0.10	9.180	0.6552	0.0544	0.0459	0.0463	0,187	0.175	0.001	0.106	0.276	0.273	0.021	0243	0,0195	
Lead	0.015	0.0102 J	D.00263 U*	0.002180*	0.00181 J	0.00163 4	0.00346 J	0.00384 J	0 903 AH-MB.	0.0031	40.007CD	40 80700	0.051	<0.00900 n	0.0188	
Mercury	0 0020	<0.030042	40.000012	<0.000042	<0.000012	<0.000012	<0.000042	<0.000042	<0.000048	\$ 0,000053	<0.00000400	<0.0000400	L 80000.0	<0.00004000 U	0.000044.J	
Søerium	0.050	0.0795	9310.0	0.0187	0.0178	0.6131	0.0882	0,0291	0.6467	0.0076	0.173	0.164	0,0047 J	0.0636	6,0022 J	
Salver .	6.12	<0.0000	<0.00080	<0.00090	<0.00060	< 0.00080	<0.000an	<00016	<0 0016	<0.000056	<0.00000	<0.00600	<0.00000	<0.00100 U	<0.000200 U	
	-															
OTHER																
Sulfate	NA.	6,500	2,740	314	1,690	-	7,940	6,230	1,920	8,500	12,000	12,600	21	4(40	57.5	
Total Dissolved Solids	NA.	12,200	7,300	9,280	6,400	-	13,800	13,900	4,940	16,600	15,600	16,400	410	19200	629	

Table 1 2015 Semi-Annual Groundwater Monitoring Report Groundwater Analytical Data

Highlands Acid Pit
Highlands, Harris County, Texas

····	1	Highlands, Harris County, Texas													
ANALYTE	TRRP Ber 1 Redderstal PCL3 ***GW mg/L	UA-11	UA-11 HAPOM-UA-11-0 11/17/2011 1111650-13	UA-11 HAP-UA11-070612-0 07/08/2012 1207230-07	UA-11 HAP-UA-11-112912-0 11/29/2012 12111017-15	UA-11 (DUP) HAP. UA11-112912-1 11/29/2012 12111017-16	UA-11 NAP-UA11-062013-0 06/202013 1306861-23	UA-11 HAP-UA11- NOV2013 02/20/2014 14021012-17	UA-11 HAP-UA11- JUL2014 07/11/2014 14070538-20	UA-11 HAP-UA11- 080 11/14/2014 I4 (10545-17	UA-11 HAP-UAI1-090 5/14/2015 15050676-19	UA-11(DUF) HAP-UA11-091 5/14/2015 15050676-19	UA-11 HAP-UA11-100 12/18/2015 HS 1512(826- 05	UA-11 HAP-UA15-1 6/30/2016 HS160/70019	
YOLATRE OXBANIC CO	HPOUNDS (mgs.)								-						
Benzene	0.005		4	44		Ø	4	80	*	24	22	2.1	ઞ	41	
Ethysbenkene	07.0	<6.00010	<0.010	<0.030	<0.030	<0.030	<0015	<0.015	<0.015	<0.015	<0.0036	<0.0030	<0.0030 U	<0.030 U	
Totuene	1.0	£183.0	9,11	0.969 J	0.073.1	0.084.1	0.060	0,090	0.075	0.051	<0.0020	<0.0020	0.002	L 850.0	
Kylenes, total	10	0.76 J	4.82	0,73	0.39	0.42	0,430	6.470	0.41	<0.025	<0.0050	<0.0050	0.4	0.22 J	
SEME-VOLATILE ORGAN	[IC COMFOUNDS (mg/L).											-			
Prienci	7.3	0.027	0.22 J	0.31 J [±]	0.17 JL*	024JL*	0.39 JL*	<0.000332	0.083 Yr.	0.033 JL- ME/SD*	0.0000 JL- SUR,ME/SD/F D	0.0031 JL+ SUR,MB/SO,F	0.018	0.1E.L- 1.CS,MI/SD	
Pyridine	0.034	0.047.2	8.023 J	1.8.5	0.022 T.	0.034 JL*	0.50	820,0	1.1 JU	0.12 JL-LCS, MS/SD*	0.018 JL- ME/SD,FD	0.34 JL+ MM/NO,FD	080.0	0.12.I.+ LCS,ME/50	
METALS (mgl.)	<u> </u>														
Arsenic	9.01G	0.542	0.146	0.161	0.169	. 0.217	0.223	0.188	0.073	9380.0	0.011.J.FD	0.022 JSFD	0.102	0.154	
Barium	2.0	6,0923 J	0.0573	9.025T	0.0264	0.02/1	0.0290 J	0.0234	0.024	0.0002	0.081 JE-FD	0.12 JHD	0.000	0.153	
Cadmitum	0.0050	0.01 611 J	0.0122	0.0141	9,0175	0.0184	L 8\$10.0	0.015	0.0097	<0.00000	<0.000000	0.0019 J	0.0124	0,0189	
Civumium	0.10	£24.0	G.710	0.825	0.772	. 0.573	0,925	0.784	0.427	0.290	04-E 610.0	0.054 JHFD	0.5912	0.410	
Lead	0.015	0.0711	0.0708	0.0530	0.0799	0.0000	0.0510	0.6437	4.032	0.0134 J	0.0015	0.0074 JHFD	Larro.0	0.0748	
Mercury	0.0020	<0.000042	L 08000000	L 0440000.0	L 0170003.0	0.0000720 J	e.0000840 J	<0.000040	0.00012J	<0.000040	<e 000040<="" td=""><td><0.0000040</td><td><0.00004001 U</td><td>0.00004EJ</td></e>	<0.0000040	<0.00004001 U	0.00004EJ	
Selenium	0.050	0.129	0.0350	0.0550	0.0610	0.04	0.0697	0.1000	0.0054	0.0528	0.000# JIFD	8900.9	0.0468 J	0.0194	
Salver	D.12	<0.0030	<0.00000	<0.0016	<0.00060	<0.00090	<0.0000	<0.0016	<0.000056	<0.00800	<0.00080	<0.00080	V00100.6>	<0.00100 ti	

OTHER															
Sulfate	NA.	17,760	25,008	14,700	10,900	19,700	9,660	15,500	14,900	13,600	270	1000	\$740	11900	
Fotal Disserved Solids	NA NA	31,700	39,900	33,500	26,500	35,100	25,700	30,760	29,100	15,100	1800	3900	16800	24800	

	TRRP Tier I Resident at			·				UA-12					
ATY LAKA	PCLS* "GWno mgi.	VA-12	UA-12 HAPOM-UA-12-0 1017/2011 1111650-10	UA-12 HAP-UA12-070612-0 57/06/2012 1207/210-03	UA-12 HAP-UA12-112912-0 11/292012 12111017-17	UA-12 HAP-UA12-062013-0 06730/2013 1306061-20	UA-12 (EUP) HAP- UA12-052013-1 06/20/2813 1306861-21	UA-12 HAP-UA12-NOV2013 02/20/2014 14021012-18	UA-12 HAP-UA12-JUL2814 07/11/2014 1407/0539-21	UA-12 HAP-UA12-BEI 11/14/2014 14110545-18	UA-12 HAP-UA12-090 \$/14/2015 15/05/0676-18	UA-12 HAP-VA12-100 12/18/2015 HS 15120826-03	UA-12 HAP-UA12-1 6/30/2016 HS160/0019-
VOLATILE ORGANIC CO	DMPOUNDE (19 pt.)												
Berkene	0.005	60	40	a	98	100	97	30000 30 00000	ia i	70 To	6.7	79	97
ĉinyberzena	0.70	<0.00010	<0.0050	<8.030	< 5 0 3 0	<0.030	<0015	<0.030	<0.015	<0015	<0.0030	<0.0030 U	<0.030 U
Totuene	1.0	0.12 J	0.081	Q.53	0.082 J	0.150	0,130	0.120	4.10	63.0	0,0079 J	0.21	0.047 J
Xyfenes, total	10	0.53.3	0.44	0.55	0.28	0.720	9.640	0.490	0.42	0.51	0,072	1.1	0.31
SEM-YOLATILE ORGAN	RE COMPOUNDS POPL)												
Phenot	7.3	9.032	0.23 J	0,47.4°	0.13 JL*	0.41	0.60	<0.900033	0.13 JL*	12:24-J. BT0.0	0.000 JL-SUR,ME/SD	0.029	0.025 Jt LC1,M1/80
Pyriosne	0 024	0.032	0.029 5	3.1.2	0.041 JL*	0.17 JF	o.36.ur	0.082	1.4 JE*	0.18 JL-LCS, MS/80*	0.18 JL-ME/SD	0.042 J.FD	0.051 JL- LC9,AB/ED
METALS (mg.L)													
Arseric .	0.010	0.0597	0.0507	0.0000	9.0287	0.0857	0,0777	0.0836	9,018	0.0605	0,045	0,150	0,112
Barlum	26	9.0259 J	160.0	0.0212	0.0296	0.0218	0.0209	6.0234	9,017	0.0210 J	0.005	0.0314	0.0271
Cadrakus	0.5050	<9.0036	0.00019	<0.00090	L eston.	0.00347.J	0.00306 J	0.00181 J	0,0022	<0.00000	<0.0030	0.00247.J	1.50
Chearatura	£10	0.264	0.228	0.267	0.164	0,445	0.411	6.352	0.212	0.346	0.010	1000	0.00776
£3d	0.915	<0.0079	0,00487 J	0.00277 J	4.00137.1	0,00800 J	0.00737 J	0 00234 UH-HB*	0,00540	<0.00700	0.0037	0.460	0.381
Mercury	0 0020	<0.000042	<0.000042	9.0000470 J	<0.000042	<0.000012	<0.000042	<0.000040	L ecocoa.o	0.000500 J		0.0297J	9000.0
elerium	0.050	0.0642	9,0173	0.0234	0.0254	0.0255	0.0291	9,0696	0,000	0.100	<0.000045 9.0062	U 030000.0	<8.0000400 U
Silver	B.12	<0.0080	<0.00080	<0.0008g	<0.00080	<0.0016	<0.0016	400016	<0.000056	<0.00000	<0.0002	0.0538	0.0184
								100010	10.00000	100000	(0.00.RI)	< 9.00100 U	<0.000200 V
THER	·												
Rufate	HA	5,300	6,500	6,420	5,190	10,800	10.600	8,930	12,306	12,700	420	9590	
otal Dissolved Spads	ж	12.200	13,500	12,000	9,210	19.800	20,000	17,400	19,400	14,900	-20		10200

						ragin	arius, i	idilio C	OUNTY, I							
avalyte	TRRP Tier t Resident# PCLS* ***G-V mgt.	UA-14 HAPOMUA- 14 DB/QS/2011 1108225-09	UA-14 (OUP) HAPOM-DUP 08/05/2011 1108225-12	UA-14 HAPON-UA-14- D 11/17/2011 11/1569-08	070612-0	UA-14 HAP-UA14 070612-1 07/08/2012 1207/238-06	11/29/2012	UA-14 HAP-UA14- 862013-0 86/20/2013 1306861-19	UA-14 HAP-UA14 HCV/2013 02/20/2014	UA-14 (EUP) HAP-UA14- HOV2013-1 02/20/2014 14021012-20	UA-14 HAP-UA-14- JUL2014 07/11/2014 14070538-22	UA-14 HAP-UA14-080 11/14/2014 141 10545-19	5/14/2015	UA-14 HAP-UA 14-100 12/18/2015 HS 15120/026-02	8/30/2016	6/30/2016
VOLATILE ORGANIC CO	AFOUNDS (mg·L)															
Benzene	0.005	22	2 1	28	18	19	48	90			7.0	4.2	15	6.0	G1-IL-61.0	0.31 JI FO
Ethyberzené	0.70	U 09000.0	0.0011	<0.0050	< 0.0075	< 0.0075	<0.007\$	≪0.015	< 0.0030	<0.0030	0.00010.1	<0.0016	<0.0030	<0.0030 U	<0.00030 U	V 06900.0>
Totuene	1.0	0.010	0.011	0.034 5	0.011 J	0.011 J	0.040	0.000	0.0005 J	L b¢00.0	0.0061	0.0099	<0.0020	U 5600.0	<0.90020 U	<0.00020 U
Kylenes, total	10	¢10.0	0.018	£ 18.0	0.052 J	1.055.0	0.22	0.220	0.027	0.035	0,044	0.065	0.006# J	0,049	<0.00050 U	<0.00050 U
SEM-VOLATELE ORGAN								.,						ļ		-
Prend	7.3	0.015	9,015	۳ دوه.ه	0.057 J	0.074 JF	0.19./L.4	9.11	<0.000032 U.E. SUR	<0.0000333	0.043 JL*	0.006 J. GUR, MS/80*	0.0002 JL 8UR,M6/50	0.013	<0.000035 JI-FD	0.00055 JI FD
Pyridine	0 024	0.0018J	0.0021 J	0 0033 03*	T SEE	0.55 J	0.012 .8.*	0.028	0.029 JI-FD	Q.12 JFD*	0.27 JL*	0.13 .L- 1.08,ME/80*	0.0086 JL- MS/SD	8100.0	<0.000030 UJL MS/SO,FD	0.00026 JL- MS/60,F0
						<u> </u>					<u> </u>	ļ				
METALS (#g/L) Arsenic	0.010	0.0064	0,008078	0.00721	0.00518	0.00535	0,0154	0.0118	0.00798 J	0.00418 J	0.0021	0.00278 J	0.01£	0.00024 J	0,00782 LIH- MSJ,108,FD	0.00006 UH- MB,RB,FO
Barken	2.0	9.0458	0.0414	0.0304	0.0774	0.0028	0.000	0.156	0.174	0.171	0.154	0.144	0.19	0.274	0.186 JI-FD	0.13 £FD
Cadmium	0.0050	<0.06080	<0.00D80	<0.00090	<0.00050	40 500080	<0.000000	<0.00080	<0.00080	40:000650	<0.00009	<0.000800	<0.00080	<0.0003500 A	<0.0002200 U	<0.0002000 U
Chromium	0.10	0.0214	0.0204	0.0543	0.0290	0,0347	0.0517	0.114	0.00063	0.00006	0.012	0.00608	0.0057	0.00020	0.0041 JFD	6.00000 JI-FD
Lead	0.015	<0.00070	<0.00070	0 000776 U*	<0.00070	<0.00070	<0.02070	<0.00078	<0.00070	<0.00070	<0.00012	<0.000700	6.0057	<0.000600 U	0.000002 J	0.000818 J
месоу	\$ 6020	<0.000042	<0.000042	<0.0000043	< 0.0000342	<0.000042	<0.000042	<0.0000042	<0.000040	<0.000040	<0.000012	<0.0000400	<0.000040	40.00004900 b	<0.0000400U	<0 0000400 U
Selerium	D.050	0.00489.1	0.00450 J	0.00511	6.00468U*	0 00325 U*	0,00892	0.00638	0.0011EJ	0.00252.1	<0.0011	0.00141.1	80011	L 6100,0	<0.001100	<0.00110 U
Swer	0.12	<0.00000	<8 90090	<0.00090	<0.00060	<0.00099	40 00000	<0.00080	<0.00000	<0.000680	<0.000056	<0.000300	<0.00060	<0.00(2200 U	<0.000200° ∪	<0.000200 Ư
						·										
OTREA		İ														
Sulfate	NA	636	-	2,043	677	-	2,560	3,160	354	290	394	419	#0	550	157	132
Total Dissolved Solids	NA.	2,040	-	4,030	2,010	-	4,900	4,280	2,520	2,380	2,530	2,069	730	2140	1770	1900

						iidi idə, 1 (di)	,						
	TRRP Tier (Residential					r.	UA-	18	-				
AVALYTE	PCLs* **GW _{ma} mgt.	UA-15	UA-15 HAPOM-UA-15-0 1 V17/2011 1111558-07	UA-15 HAP-UA (5-0705 2-0 07/05/2012 120723 -05	UA-15 HAP-UA15-112812-0 11/28/2012 12111017-19	UA-15 HAP-UA 15-061913-0 06/19/2013 1306861-05	UA-15 HAP-UA-15-HGY2013 02/19/2014 14021012-03	UA-16 HAP-UA15-JUL2014 07/10/2014 14070538-13	UA-15 (DUP) HAP-UA15-JUL2014-1 07/10/2014 149/70538-14	UA-15 HAP-UA16-080 11/13/2014 14110545-21	UA-15 HAP-UA15-090 5/14/2015 15050676-15	UA-15 HAP-UA15-100 12/17/2015 HS15120827-08	UA-15 HAP-UA15-110 6/29/2016 H5160/0019-14
YOLATILE ORGANIC CO	MPOUNDS (Mg/L)	 											
Зегионе	0.005	0.54	1,0	0.97	0.41	0.250	0.022	0.0076	0.0002	<0.00620	0.007	0 (001) UH-R0 F0	<0.00020 U
Ethylbenkena	0.70	<0.00010	<0.00010	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030 <i>U</i>	40 00030 U
Tokuene	1.0	8 00010UJ	<0.00010	<0.000030	<0.00090	<0.00020	<0.90039	<0.09020	<0.00020	<0.00020	<0.00020	<0.00020U	<0.00020 U
Xylenes, lotar	10	0.000233	<0.00030	<0.00090	<0.00030	<0 00050	<0.00050	<0.03050	<0.00050	<0.00050	<0.00050	<0.00050 U	<0.00050.U
SEM-YOLATILE ORGAN	C COMPOUNDS (mol.)												
Priend	7.3	<0.000020 h1.	0.00031 Jr	6.0014J*	0.00071 JL*	0.00012.2	0,000061	<0.00044 U.H.*	<0.00044 W.L*	<0.000026 U.IHT	9.00005 JL- BUR,MS/SD	<6 000035 ₽	<0.000036 U
Pyticine	0 024	<0.00010 UJ*	<0.00010 UJ*	-1.83000.0	<0.09010 ft/L*	0.0002fJ	<0.000048	<0.0034 OVE.	<0.0024 U.J.L.*	<0.000040 M7FH1	< 0.000030 UJL- MS/SO	<0 9000330 U	<0.000036 UJE- MS/SD
METALS (mg/L)													
													2012/02/02/03
Arsenic	6.010	0.00143	6010.0	0.006(8	0.00891	9,00906	0.00323	0.0087	0.0058	0.00965	Q.1f	0.00216.J	0.0687
Barium	20	0.0322	9.0196	1540.0	0.0296	0.067 8	0.0027	9.087	0.007	0.0721	0.14	0.0915	0.0660
Cadmium	0.0050	<0.90060	<0.00030	<0.00080	<0.00080	<0 000080	<0.00090	<0.00008	<0.00033	<0.0000000	<0.00690	<0.000200.€	<0.0000200 U
Chrombum	0.10	LM100.0	0.002B2.J	0.00297 J	<0.0012	<0.0010	<0.0010	<0.00018	<0.00018	<0.00100	£ 8700.0	9.809684 VH- MB,R8,CCB	0.00096 UH-MEE
Lead	0.815	<0.50070	0.000852 U*	6.000890-J	<0.00070	<0.00070	<0.00070	<0.00012	<0.006†2	<6.000700	<0.00070	<0.0000000 U	<0.000603 U
Mentury	0.0920	<0.000042	<0 500042	<0.000012	<0.000042	<0.000042	<0.000040	0.00022.J	⊲0 000012	<6.0000400 -	<0.000040	<0.00000100 U	<0.00000000 U
Seeium	0.050	0.0120	0.00003	0.004213	0.00750	0 00185 AH.	<0.0010	<0.0011	<0.0011	< 0.00 (00	00026 DH-CC8	<0.00110U	0.00122,1
Sever	0.12	<0.0008E	09000.8»	<0.00090	<0.00080	<0.00080	40 D0000	<0.000056	<0.000056	<0.000000	<0.000ao	<0.000200 U	<0.000200 €
OT KER													
Sulface	NA NA	1,470	17,700	835	1,270	272	899	99.0	98	101	44	40.9	47.8
Total Dissolved Schol	NA NA	3,170	3,380	3,140	2,740	1,080	788	1,010	926	802	600	470	384

					,		UA-16					
UNALYTE	TRRP That I Residential PCLS [†] **GW _{PP} mg/L	UA-16 HAP CM-UA-16 08/95/2011 1108/225-11	UA-18 HAP OM-UA-18-0 11/17/2011 1111650-09	VA-16 HAP-VA16-010512-0 07/05/2012 1207231-04	UA-16 RAP-UA16-112012-0 1 V28/2012 12111017-20	UA-16 HAP-UA16-061913-9 06/19/2013 1306861-87	UA-16 HAP-UA16-HOV2013 02/19/2014 14021012-04	UA-16 HAP-UA18-JUL2014 07/10/2014 14670538-15	UA-16 HAP-UA16-089 11/14/2014 14110593-22	UA-16 HAP-UA15-093 BH4/2015 15050676-16	UA-16 HAP-UA-16-100 12/17/2015 HS-15120827-09	UA-16 HAP-(IA16-118 6/29/2016 HS16670019-15
YOLATILE ORGANIC CO	MFOUNDS (mg/L)					1.2.2						
Bertzene	0.005	0.92	7.2	0.50		0.410	23	De00.0	6.3	0.0015	2.5	0.0003e.J
Ethytentene	0.70	0.00085 J	L 0200.0	<0.00936	C.00000 J	<0.00030	<0.0030	<0.0039	<0.0830	<0.00000	<0.0030 U	<0.00030 U
Totuene	1.0	6 00050 tu*	0.0013 J	<0.00930	0.0000B J	<0.00020	<0.0020	< 0.0020	0.00065.T	<0.00020	<0.0020U	<0.00020 U
kyšenen, total	10	0.019	C.014.J	0.003N	9.0066	0.0047	<0.0050	< 0.0650	9.011	0.00082 J	L 910.0	<0.00050 U
SEM-VOLATALE ORGAN	C COLECTIVIDE (mad)											
Phend	7.3	6 00065 U*	0.0041 J*	0 00322 U*	0'040 °JT.	0.00001	0.00021	<0.00043 U.L.	0.018.3L-0VR*	<0.000035UJL- SUR,NS/SD	0.0012	<0.0000035 U
Pyridine	0 024	<0 000 io m₃	<0.00010 UJ*	0.00012.1	<8 00810 W.*	<0.00010	<0.000018	<0.0034 UJL*	<0.000B40 #JIL-LCS*	<0.000000 UUL-MS/SC	0.000099 UH-RB	<0.000000 UJL#NS/SD
	<u> </u>											
METALS (mg/L) Arsenic	0.010	<0.0013	0.00170 J	0,00161 J	<0.0013	<0.0010	40 DÓID	<0.90042	<0.00100	<0.0010	<8.0060400°U	0.00318 UH MB,CCB,RB
8arium	2.0	0.190	0.167	0,110	0.163	0.131	0.579	0.106	0.139	0.16	0.128	0,0779
Cadmium	0.0050	<0.0000B0	<0.00080	40:00080	<0.000E0	<0.00080	<0.00060	<0.00009	<0.000203	<0.00080	<0.090300 ∩	<0.000200 U
Chromium	Q 10	<0.0012	<0.0012	0,00173 J	<0.0012	<0.0010	0,00141 J	0.0012	<0.00100	<0.0010	0 00095 UH- MB,PB,CCB	9.4-HU E02000.0
Lead	0015	<0.00070	0.000726 U*	<0.00070	<0.00070	<0.00070	<0.00070	<0.60012	<0.006700	<0.00070	<0.000900 A	<0.000600 U
Метсиу	6.0026	<0.000042	<0.000042	<0.000042	<0.000042	<0.000042	<0.000040	<0.000012	<0.0000100	<0.000840	<0.00000000	<0.000000U
Selerium	a 950	<0.0010	L 90100.0	0.00233 J	<0.0016	0.00132 บหา	<0.0010	<0.0011	<0.00100	<0.0010	<0.0011@U	<0.001180
Silver	0.12	<0.00080	<0.00000	<0.0CD60	<0.00080	<0.00090	<0.00000	< 0.000056	<6.000800	<0.00080	<0.000200 U	'<0.0002000 U
OTHER												
\$###	НA	655	803	400	618	279	208	269	355	2-60	165	124
Total Dissolved Selicia	HA	3,430	3,660	2,220	2,390	1,230	1,110	1,120	1,210	1,103	\$30	612

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NHALYTE	TRRP The I Residented PCLS* STOW PGA.	MAA77	MA-02 HAP 0M-MA-02-0 1 V-17/2011 1111650-0M	MA-62 HAP-MA02-070512-0 07405/2012 1207231-09	MA-02 HAP-MAD2-112812-0 11/202012 12111017-07	MA-02 HAP-MA02-051913-3 06/19/2013 1306961-10	MA-02 HAP-WA02- NOV2013 02/19/2014 1402/1012-05	MA-02 HAP-MA02- JUL2014 07/11/2014 14070538-18	MA-02 HAP-MATE-080 11/14/2014 14110545-06	MA-07 HAP-NA03-090 5/14/2015 15050575-06	HA-02 H-P-84402-109 12/17/2015 HS15120827-07	MA-02 HAP-MA02-110 8/29/2016 H\$160/9019-13
YOLATILE ORGANIC CO	MPOUNDS (mg/L)							A Contract contract			- 4 - 4 - 1	
Benzene	0.005	<0.00030	<0.00030	<0.00020	<0.00(Z0	<0.00020	<0.000ZÛ	4014UH	40.00020	<0.00020	<0.00020 U	<0.00020U
Ethylbersene	0.70	<0.00018	<0.00010	<0.00030	<0.00030	<0.00030	< 0.00030	<0.00030	49,00330	<0.00030	<0.00030 U	<0.00036∜
Toksene	1.0	<0.00010	<0.00010	<0.00030	<0.00030	<0.00020	<0.00020	<0.00020	<0.00223	<0.00020	0.0074	<0.00920 ป
ylenes, total	10	<0.00030	<0.00030	<0.90090	<0.00030	<0.00050	<0.90050	<0.50050	<0.90056	<0.60050	<0.00050 U	<1.00050 U
SEMI-VOLATILE ORGAN	HC COMPOUNDS (mg/L)											
Phenal	7.9	0.9091617J*	0.000000J	<0.000050 U.F	<0.000050 UJL"	<0.000050	<0.000332	<0.00047 UJL*	0.000082 UH-RB, SVR, MS-EO*	<0.000035 UJL-SUR	<0.0000BSU	<0 000035 U
Pyridine	0 024	<0.00010 ft.	<0.000101UJ	<0.00010 R*	<0.90010 W.L*	<0.00010	<0.000048	<0.0036 RNT.	<0.0000M8 UJIL-MS/SO*	<0.000036	<0.000038U	<0.0000000 UJL-MS/S
METALE (mg/L)												
Arseniç	- 0.510	C.004469 J	0,00561	0.00655	0.00612	L##00.0	0.90749	0.0047	0.000694	9800,0	0.00581	0,00456 UHAMB,CCB,
ซิงก์บา	20	0.0612	6,0481	0.0208	0.0099	0.0993	0.031	6.080	9870.0	0.042	Q.072B	0.0561
Cadmium	0.0050	<0.0060	<0.000000	49.800a0	<0.00086	<0.00080	<0.90080	<0 00009	-0.000e00	<0.90080	<0.606200 U	<0.000290 ₽
Chromitum	0.10	<0.0012	<0.6612	<0.9012	<00012	<8 9010	<0.0010	0.00032 J	<0.00100	<0.0010	B D00425 UH-MB-76,CCB	0.00492 J
Lead	0.015	<0.00070	£ 6000769 UT	. <0.00070	<0.00070	<0.00070	<0.00070	<8.00012	<0.000700	<0.00070	48 000600 U	0.00228.3
Mentury	0.0020	<0.000042	<0.000012	<0.000042	<0.000042	<0.000042	< 0 0000340	<0.000012	<0.000040	<0.000040	<6.0050408 U	<0.0000400 U
Selectura	0 050	<0.0010	<0.0010	L##00.0	<0.0010	<0.0010	<0.0010	<0.0011	<0.00100	<0.0010	<0.001100	<0.09118U
SAVE.	0,12	<0.00080	<0.00000	<0.00000	<0.00080	<0.00060	<0.00060	<0.000056	<0.0000000	<0.000 0 0	<0.000200 U	<0.0002000 U
OTHER												
Setate	NA.	68.5	61.1	19.9	46.4	59.1	7.61	53	52.5	5.7	21	3.02
Total Dissolved Spads	HA.	1,210	740	420	856	926	336	822	829	380	742	130

					Highla	nds, Harris	County, Te	exas				
	TRAP Tier I Residential						JM-0	13			****	
AKULYTE	PCLs ⁴ **GW mg/L	MA-03 HAPCH-MA-03 08/05/2011 11/08/225-003	MA-63 HAPOH MA-03-0 1 V16/2011 1111590-06	MA-03 HAP-MA03-070512-0 07405/2012 1207231-06	MA-03 HAP-MAD3-112612-0 11/28/2012 12111617-08	MA-03 HAP-MA03-051913-0 06/19/2013 1306861-06	MA-03 HAP-MA03- NCV2013-3 92/19/2014 14021012-06	MA-03 HAP-MAIG-JUC2014 07/10/2014 14070539-07	MW-03 HAP-MAGI-080 19/4/2014 14/105/5-07	MAY-63 HAP-HAGS-090 5/14/2015 15050676-10	MW-83 HAP-MA03-103 12/17/2015 HS15120827-06	6/29/2016
VOLATILE ORGANIC C	DAPOUNDS (#441)											
Berzene	0.005	<0.00030	<0.00030	<0.00020	<0.00020	<0.00020	0.00096 J	<0.00020	<0.000220	<0.00020	V920020P	0.00036 J
Ethybergene	0.70	<0.00010	<0.00010	<0.00030	<0.00039	<0.00030	<0.00030	<0.00030	<8,00030	<0.00030	<0.00036 U	<0.00030 U
Totuene	1.0	<0.00010	<0.00010	<0.00030	<0.00000	<0.00020	< 0.96020	<0.00020	<0.00020	<0.00020	<0.00020 U	
Xyfènes, lotal	10	<0.00030	<0.00030	<0.00090	<0.00030	<0.00050	<0.00050	<0.00050	<0.00050			<0.000000 U
-				-5222	100000	10 0000	100020	100000	<0.00000	40.00050	<0.00050 U	<0.00030 U
SEMI-VOLATRE ORGA	(IC CONTOUNDS (mgl)						*******		· · · · · · · · · · · · · · · · · · ·	<u> </u>		
Phenoi	7.3	0 00644 V*	<0.000050	<0.000050 UJ*	<0.200058U1L*	<0.000050	<0.000032	<0.03045 W.L*	<0.000026 UUL-9UR,MS/SO*	<0.000035 UJIL-SUR	<9 000005 U	<0.000036 U
Pyrktine	0 024	<0.00018 UJ*	<0 000 18 171↑	<0.00010 R*	<0.000 to LUL?	<0.00010	<0.000048	<0.0025 ∪л.*	<0.000040 UJLAKS/SD*	<0.000030	<0.000000 U	<0.000030 WLMS/S
METALS (mgL)	l											
Arseric	8,910											
	9,910	6.695C1	0.00349	9019.0	0.0111	0.0119	0.0127	9,011	0.0117	0.611	0.0114	0.0143 UHAB
Bartum	2.0	0.164	0,154	0.145	0.184	0.200	0.166	0.169	0.178	0.150	0.106	0.134
Cadinkin	0 0650	<0.000000	<0.00080	<0.00080	<0.00060	<0 00080	<0.00080	<0.08609	<0.000800	<0.00080	<0.000200U	<0.090200 U
Ctroniun	0.10	40 8012	<0.0912	<0.0012	<00012	49.0010	<0.0010	0.00029 J	<0.00100	<0.0010	<0.000400 U	0.000457 VH-448
Lead	0.015	<8.00070	<0.00070	0.000712.J	<0.00070	<0.00070	0.000884 UH-M2°	0.00022 J	<0.000700	<0.00070	<0.0000000U	<0.000660 U
Mercury	0.0020	<0.000042	<0.000042	<0.000042	<0.000042	<0.000042	<0.000040	<0.000012	< 0.00X3340X	<0.000040	<0.0000400 U	<0.0000400 U
Seenum	0.050	<0.0010	<0.0010	0.0043@J	<0.0010	8:00102 UH*	<0.0010	<00011	<0.00100	<0.0010	<0.00118¥	40 000 110 U
Saver	0.12	< 0.000000	<0.000000	<0.00030	<0.00000	<0.00080	<0.00080	<0.930056	<0.000806	<0.00080	<0.000200 U	<0.090200 U
DTHER												
Sutate	ĸ	694	24.3	149	t5.7	183	11.4	11.8	149	10	10.9	9,45
Total Cissolved Schds	RA	1,140	614	600	436	448	368	366	358	340	944	342

	T				nigriia	nds, Harris	County, I					
ANALYTE	TRRP fler i Residential PCUI [®] ***OW rkgiL	MA-05 HAPOM MA-05 03/05/2011 1108/225-04	MA-05 HAPONENA-05-0 11/16/2011 1111590-01	MA-05 HAP-MA05-070612- B 07/06/2012 1207/230-04	MA-05 HAP-MA-05- 112712-0 11/27/2012 12111017-05	MA-05 HAP-MA05-062013- 0 06/20/2013 1306861-16	MA-05 HAP-MA05- HOV2013 B2/19/2014 14021012-07	MA-05 HAP-MA05 JUL2014 U7/10/2014 14/07/0538-08	MA-05 HAP-MACS-080 11/14/2014 14110545-08	MA-05 HAP-MAD5-090 5/M2015 (5050676-0)	MA-65 HAP-MA-05-100 12/17/2015 HS15120827-05	MA-05 HAP-MA05-11 6/29/2018 HS16070019-1
YOLATILE ORGANIC CO Senzane	SDDS	<0.00030	<0.00030	<0.00020	L 65000.0	<0.00020	<0.00020	<0.00020	<0.00020	0.000373	<0.00020 U	0.0004 J
					<0.00090		<0.00030	<0.00000	400030	<0.00030	< 0.00030 U	<0.00039 U
Estrytoen2 one	0.70	<0.00010	<0.00010	<0.00030		· 40.00030					<u> </u>	
Toluene	3.0	<0.00010	<0.00010	<0.00039	<0.00030	<0.00020	<8.00020	<0.00020	<0.00020	<0.00029	<0.50025 U	<0.00029 U
xylenes, total	10	9.00031 J	<0.00030	<0.00090	<0.00030	<0,00050	<0.00050	<0.00090	<0.00050	<9.80053	<0.00050 U	<0.00060 U
SEMI-VOLATILE ORGAN	C COMEDIDATE (MAS)											
Phenol	73	0 00019 <i>U</i> *	<0.000050 W	0.000080 U*	<0.000050 W.L*	<0.000090	<0.000032	<0 00345 W.L	0'00018 THENK WENED.	<0.000008 U.B8UR,NS/90	<0.000035 W.L-SUR	⊲9 0000035 U
Pyridne	0.024	<8 00010 LU1*	<8 00010 UJ*	<0.00010.01	<0.00018FMG	<0.00010	<0.000048	<0.0025 U.S.*	<0.000040 UJL-MS/SO*	< 0.000030 UJL-MS/SD	<0.000330 U	0.000054 UK- RB,MS/80
METALO (mg/L) Avenic	0,010	0.0231	0.0224	0.0249	0,0252	9.0200	6.023q	0.027	0.0259	5.629C	0.0290	0.0276
· · · · · · · · · · · · · · · · · · ·		0.104	0.110	0,125	0.131	0.122	0.134	0,145	0.139	0.14	0.120	0.123
Barkun	20											
Cadmium	0.0050	<0.00680	<0.00060	<0.00090	<0.00080	<0.00080	<0.00060	<0.00009	<0.000000 	(\$90E)>	<0.000203 U 0.00057 UH-	<8 000200 U
Chromium	d.16	<0.0012	<0.0312	0.001 60 J	<0.0012	<0,0010	<0.0018	<9.00010	<0.00100	<8 0010	маласса	<0.000430 U
Lead	9.015	<0.00070	<0.00070	<0.000000	<0.0070	<0.000070	6.000719UH-M6*	0.00013.1	<0.000700	<0.000.00 0.0000.00	< 0.0000001 U	<0.00000000 b
Marculy	6 txx20	<0.000042	< 0.000042	< 0.500042	<0.000042	<0.000342	<0.000040	<0.000012	<0.0003400	<0.000040	<0.00006400 U	<0 0000400 €
Selectum	0.050	<0.0010	<0.0010	0.00170 U*	<0.0010	<0.0010	<0.0018	<0.0011	49.00109	<0.9010	<0.00110.0	<0.001100
Silver	Q.12	40.00080	40 00000	<0.00030	<0.00090	<0.000083	<0.00088	48 0000056	<0.000000	<0.00080	<0.000200 U	<8 0003200 U
отнея												
Sulfate	NA	14.2	3.34	6.51	2.68	7.02	11.7	15	10.0	18	8.54	10.9
Total Dissolved Solids	RA	348	342	552	342	350	386	368	330	360	316	342

	1	T			riigi ilai su:	s, Harris Co	MAG						
STYLUKA	TRRP Tier 1 Residential PCush Inw GW mg1.	MA-06 HAPOM-MA-06 05/04/2011 1108/89-03	XA-06 HAPOM-WA-06-0 11/16/2011 1111590-06	NA-06 HAP-MA06-070512-0 07/05/2012 1207231-02	MA-06 HAP-MA-06-112812-0 11/28/2012 12111017-09	MA-06 HAP-MA06-061913-0 06/19/2013 1306961-08	RA-06 HAP-MA06- ROV2013 92/19/2014 1402/10/12-06	WA-06 HAP-MA06-JUL2014 3 07/10/2014	MA-06 HAP-MA06-060 11/13/2014 14/10515-09	MA-06 (DUP) HAP-MA(6-081 11/13/2014 14110645-10	MA-06 HAP-MA06-081 \$/12/2015 15050676-09	MA-06 HAP-MA06-100 12/16/2015 HS15120827-04	6/29/2016
VOLATER ORGANIC CO	MPOUNDE to all												
Bergene	0.005	<0.00030	<0.00030	<0.00020	<0.00020	<0.00020	0.00041.3	<0.00020	0.010	0.510	<0.00020	0.0078	0.00Z
Ейуфегееле	0.70	<0.00010	<0.00010	<0.0000	<0.90030	<0.00030	<0.00030	<0.00030	<0.00030	<0.00330	<0.00030	<0.00020 V	<0.00030 U
Totuene	1,0	<0.00010	<0.00010	<0.03030	<0.0030	<0.00020	<0.00020	<0.00030	<0.00020	<0.00000	<0.00020	<0.00020 U	<0.00020 U
Kylenes, total	10	9.0027 J	0.0021 J	0.0013-2	0.00087	<0.00050	<0.00050	0.000ET J	<0.00050	<0.00050	0.0012J	0.0056-1	0,0041
REMEVOLATILE ORGAN	IC COMPOUNDS (mg/L)										***************************************		
Prend	7.3	0 00034 UJ*	<0.800058VJ*	9 000976 U*	<0.000050 U.H.*	<0.000660 UVL*	0.00013.1	<0.00043 tUL*	0.00000 JL-6UR MB/SD, FD*	0.00040 JL-SUR, M9/SD, FD*	49.000008 U.S 18 VR,MR/8 D	<0 000035	0.000068.1
Pyridine	0.024	<0.000101U*	<0.00010 UJ*	<0.0001015	<0.00010 O.H.	<0.00010	<0.000048	<0.0024 U.E.*	<0.000040U,K,- MS/S0*	<0.000040 tUL- MS/SO*	<0.000030 UJL MS/SD	D.0000173	0.00011 UH- RB,M5/SD
									·				
METALS (mgs.)													
Arseryc	0.010	0.00035	\$.000(Z	0.0110	0.0104	0,00022	0.0107	##00.0	1010.9	0.00060	0.00000	0.6101	0.0116 UN-ALB
Barium,	20	0.151	0.180	0.160	0.151	0.147	0.130	0.148	0.140	0.138	0.120	0.0849	0.0026
Cadmitum	0.0050	<0.00080	<0.00080	<0.00080	<0.00380	<0.00086	<0.00000	<0.03008	<0.000000	<0.0000008	<0.000BC	<0.0002000 U	< 0.000200 U
Chromium	0.10	<0.0012	0.00128 J	<0.0012	<0.0012	<0.0010	40000	<0.00018	<0.00(00	<0.00100	<0.0010	0 000589 UH- MB,RB,CC8	<0.000400) U
Léad	0615	<0.00070	9.000744 J	<0 00070	<0.00070	47.000.00×	40 00070	<0.00012	<0.000700	<0.000700	<0.00070	<0.0006000 U	<0.000600 U
vecuy	0.0026	<0.000812	<0.000042	<0.000042	<0.000012	<0.000042	40.000048	< 0.000012	<0.0000400	<0.0000100	< 0.050340	<0.0000400 U	<0.0000100 U
Setenjara	8 650	<0.0010	40 0010	0.000\$44.J	<0.0010	0 00110 UH*	<0.0010	<0.0011	<0.00100	<0.00100	<0.0010	<0.00110U	<0.00110U
Silver	0.12	<0.00080	<0.00080	<0.00030	40.00090	<0.00060	<0.00080	< 0.000056	< 0.0000800	<8.030800	<0.00080	<0.0000000 U	<0.00/22/0D U
OTHER											***************************************		
Sulfate	IVA	761	71.0	100	5 56	210	4 52	‡8	113	11.1	19.0	125	11.4
Folds Crisical ved Scolats	IA.	370	416	760	338	414	339	322	329	338	950	920	379

							ħ.	4.07					,
ANALYTE	TRRP Ter I Residere a PCL3 **GY _{PP} mg/L	MA-07 HAPOM-KA-07 08/04/2011 1108189-05	MA-07 (OUP) HAPON-DUP 06/04/2011 1108188-08	MA-07 HAPONEMA-07-0 11/16/2011 11/1590-00	MA-07 HAP-MAUT-070512-01 07/05/2012 1207231-08	MA-07 HAP-MA07-F12812-0 11/28/2012 12111017-10	MA-07 HAP-KA07-051913-0 06/19/2013 1306851-11	MA-07 HAP-MA07-NOV2813 02/19/2014 14021012-09	MA-07 HAP-MA07-JUL2014 07/10/2014 14070539-10	MA-07 HAP-WAIT-083 11/14/2014 14110545-12	MA-07 HAP-MA07-050 S/14/2015 15050676-08	MA-07 HAP-MA07-100 12/16/2015 HS 15120827-02	6/29/2016
VOLATILE ORGANIC CO	MOUNOS (m. 1)												
Servere	0.005	<0.00030	<0.00030	<0.00030	<0.00020	<0.00020	40.00020	0,00037 J	< 0.00020	<0.00020	<6.00020	<0.00020 U	<0 00020 년
Ethylperizene	070	<0.00010	40.00010	<0.00010	<0.00030	< 0.00030	<0.00030	<0.00030	<0.00030	<0.00000	<0.00036	<0.00030 V	<0.00030 U
Tourne	10	<0.00010	40 000 IC	<0.00010	<0.00030	< 0.00030	<0.000020	<0.00020	<0.00020	<0.00020	<0.00020	<9 00020 U	<0.00020 U
Xylenes, total	ID	LE200.0	0.0014 J	0.0012 J	<0.00090	<0.00030	0,0011	40.00050	0,0022	<b 00050<="" td=""><td>0.0012 J</td><td>0.00071 J</td><td>0.00065 d</td>	0.0012 J	0.00071 J	0.00065 d
SEMI-VOLATILE ORGAN	C COMPOUNDS (mg/L)												
Phenoi	7.3	<0.00005 UJ⁴	40 00 00 CO VII'	<0.000050 W*	<0.600090 nn.	<b 000006="" td="" uul*<=""><td><0 500058</td><td>9.000092 J</td><td><8 00044 W.L*</td><td><8.000025.UUL-SUR, MS/SD*</td><td><0.000035 UJL- SUR,MS/SD</td><td><0.0000035€</td><td><0.000035 U</td>	<0 500058	9.000092 J	<8 00044 W.L*	<8.000025.UUL-SUR, MS/SD*	<0.000035 UJL- SUR,MS/SD	<0.0000035€	<0.000035 U
Pyridine	D 0:24	<0.00010707	<0.05010 UJ*	<0.00010 UJ*	<0.000 to 16.	<0.00018 UJL*	<0.00010	<0.000043	<0 0034 A1T.	<0.000040 W.L- MS/SD*	<8.000030 UJL- MS/SD	≠0 000036 U	<0.000030UJL- MS/SO
METALS (mgl.)													
Arsenic	0.010	0.00494 J	0.00560	0.00554	0.00624	0,00576	0.90530	0.00030	0.0062	0.00600	0.0060	0.00739	BM-RU 69900.0
∄ankum	20	0.161	0.179	0.171	0.176	0,189	0.206	0.167	0.186	0.176	0.18	0.172	0,នោ
Cadmium	0.0550	<0.000000	<0.08080	<6.00098	<0.00280	< 0.00390	<8 0.00090	<0.000,60	<0.06009	<0.000800	<0.00000	<0.000200 U	<0.0902200 U
Charaem kumi	0:10	<0.0012	<0.0012	<0.0012	<0.0012	<0.0012	<0.0010	<9 0010	0.00024 J	<0.00100	<0.0010	0 000662 UH- MB,RB,CCB	0.000429 UH-NE
Leas .	0.015	<0.00070	40 00070	<0.00070	<6.00070	< 0.00070	<0.60070	<0.00070	0.00012.J	<0.000700	<0.00070	<0.000600 U	<0.000e00.U
Mercury	D 0020	<0.000015	<0.000042	<0.000942	<0.090342	<0.000042	<0.090042	<0.090040	<0.000012	<0.0000400	640000 0>	<0.0000490 U	< 0.00000100 C
Sefentum	0.050	<0.0018	40 DG1D	<0.0910	0,00238.1	<0.00t0	<0.0010	<0.0010	4B.0011	<0.00100	<0.0310	<0.001100 U	<0.001181J
Ş2yez	0 12	<0.00088	<0.00090	<0.000090	<0.00060	<0.00090	<0.00050	<0.00060	<0.000056	<0.000800	<0.00090	<0.0002000 U	<0.000300.ft
			l					İ					
OTHER	•												
Surate	RA	9 63	-	0 895	103	4.47	13.8	3 38	11	634	9.3	33UH-CCB	9.37
Fotal Classived Solids	НA	276	-:	314	320	276	352	342	324	316	330	318	364

					i	lighlands, I-	larris County	y, Texas						
	TRRP Trer 1 Residential		,					MA 08						
ARALYTE	PCLs ³ F*GW mg/L	MA-08 HAP ONE-MA-08 08-04/2011 1108188-07	MA-08 RAP OM-IMA-68-0 \$1/17/2011 1111650-02	MA-08 HAP-MA08-070612-0 07/08/2012 1207230-01	MA-08 HAP-MADS- 112612-0 11/26/2012 12111017-11	MA-08 (DVP) HAP- MA08-112812-1 11/25/2012 12111017-12	MA-08 HAP-MA93-062013-0 06/28/2013 1306961-18	MA-Q3 HAP-MAG8-NOV2013 62/26/2014 14021012-21	NA 08 HAP-MA08-JUL2014 07/16/2014 H070538-11	MA-D8 HAP-MAD8-080 1919/2014 14110545-13	MA-08 HAP-MA08-090 05/12/2015 15050676-03	MA-08 (DUP) HAP-WADS-090 05/12/2015 15/056676-03	MA-08 HAP-MA08-100 12/16/2015 HS15120768-09	6/28/2016
VOLATILE DROAMS CO	MPOUNDS (mgt.)													
Benzene	0 005	<0.00030	<0.00030	<0.00030	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00030	< 0 000720	<0.00020 U	<0.0902∂U
Ethyltenzene	0.70	<0.00016	<0.00010	<0.60030	<0.00030	<0.00030	<0.000030	<0.00030	<0.00030	<0.000030	<0.00030	<0.00030	<0 00030 U	<0.0003010
Tolvene	10	<0.00016	«Ø 00010	<0.00330	<0.00030	<0.00030	<0.00020	<0.00020	<0.00030	< 0.000720	<0.00020	< 0.000020	<0.00050.0	<0.00020 U
Kylenes, lotal	10	0.011	0.0068	0,00033	0.0038	0.0038	¢,0051	0.0099	0.014	0.0064	0.012	0.011	0.0065	0,015
SEM-YOLATILE ORGAN	ic compounds (mal)													
Phenol	73	8 00x822 U*	<0.000050 kU*	<0.000020 htt.	<0.0000050 t/UL*	<0.000000 mir.	<0.000050	<8 000033	<8 000014 U.J.L*	<0.020026 UJL- SUR"	<8 000035 W.L. SUR,MS/50	< 0.000036 U.R SUR,MS/SD	<0.000035 U	<0 0000035 U
Pyridine	0.924	<0.000t0 UJ*	<0 00010 LU*	<0.00010 R*	<0.00010 W.L.*	<0.0010 UJL*	<0.00010	<0.000048	<b0024 td="" u.s.*<=""><td>د0 000040 U.J., LCS</td><td><0 000000 UJL- MS/SID</td><td><0.000030 U/L- MS/5Ω</td><td><0.000030 V</td><td><0.000030 UJI: MS/SO</td></b0024>	د0 000040 U.J., LCS	<0 000000 UJL- MS/SID	<0.000030 U/L- MS/5Ω	<0.000030 V	<0.000030 UJI: MS/SO
HETALS (mg/L)	L													ļ
Arsenic	0.010	0.00839	0.0165	0.0112	0.0167	0.0105	0.0110	2,00898	0.0098	0.00981	0.0093	0,0089	0,00907	0.00929 UH-M
Batum	2.0	0.142	0.124	0.136	0.182	0.166	6.163	0.210	0.207	0.234	024	0.22	0.150	0.156
Cadmium	0.0050	<0.00080	<0.000.60	<0 (00)99	<0.000000	<0.00000	<0 00000	<0.000080	<0.00009	<0.000000	<0.000000	<0.00000	<0.000200 U	<0.000209 U
Chromium	6.1D	< 0.0012	<0.0012	<0.0012	<0.0012	<b 0012<="" td=""><td><0 B010</td><td><0.0010</td><td>0.00092 J</td><td>0.00229 .3</td><td>L 1000.0</td><td>0.0020</td><td>0 0005a2UH- RB</td><td>0.00109 UH-ME</td>	<0 B010	<0.0010	0.00092 J	0.00229 .3	L 1000.0	0.0020	0 0005a2UH- RB	0.00109 UH-ME
LE3d	0.015	40 00070	<0.00070	<0.00070	40 000070	<0.00070	<0.00070	<0.00070	<0.00012	<0.000700	< 0 0000 70	<0.00070	<0.000500 U	<8.000500 U
Mentury	0.0020	<0.000042	40.000042	<0.000042	<0.000042	<0.000012	<8 660042	<0.000040	<0.000012	<0 D00D400	<0.060040	<0.000040	40 0000000 UJ-	<8 5000000 U
Selevium	D 050	<0.0010	<0.0010	0.001170*	<0 0010	<0.0010	<0.0010	<0.0019	<0.0611	<0.00100	<0.0010	<0.0010	<0.00110 U	<0.001 t0 U
รัญส	0.12	<0.00060	<0 80880	<0.000,60	<0.000690	<0.00080	<0 000000	<0.00080	<0.009056	<0.0008000	<0.00000	< 0 00000	<0.000209 U	<0.000200 U
												·		
OTHER														
Surate	NA	99.7	75.1	107	69.4	84.5	558	462	55	93.9	58	29	3870	63.3
Total Dissolved Schols	HA.	1,230	1,190	1,220	1,140	1,130	1,270	1,130	1,120	1,030	1100	1190	322	1130

					пуна	nds, Harris (DA-01						
MALYTE	TRRP Her 1 Residential PCLS ³ °**GW mgL	DA-01 HAPOM-DA-01 0805/2011 1109225-002	0A-91 HAP-OM-DA-01-0 11/17/2011 1111650-03	EA-01 HAP-DA01-070512-0 07/05/2012 1207231-10	DA-01 HAP-DA01-112812-0 11/28/2012 12111017-01	DA-01 HAP-DADI-061913-0 02192013 E10261-09	DA-01 HAP-DA-01- NOV2013 D219/2014 14021012-10	DA-01 HAP-DA01- JULZDM 07/10/2014 1407/05/28-01	DA-01 (CVP) HAP-DAD1-JUL2014-1 01/10/2014 14679538-02	OA-01 HAP-DA01-089 11/14/2014 14110/515-01	DA-01 HAP-DA91-02D 6/12/2015 15850676-07	EA-01 HAP-DA01-180 13/15/2015 HS 151/20788-02	DA-01 HAP-DAD1-100 6/27/2016 HS16070019-01
VOLATILE DREANIC CO	Τ'	*****	<0.00039	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020 U	<0.00039 ft
dergene	0.005	<0.00030					<0.00630	<0.00030	<0.00933	<0.00030	<0.00030	<0.00030 V	<0.00030 U
Ethysherizene	9.70	<0.06010	<0.00010	<0.00030	<0.69030	<0.00030						<0.06020 U	<0.00020 U
Faluené	1.0	0.000f J	<0.00010	<0.00030	< 0.00030	<0.00020	<0.000020	<0.000.20	<0.00020	<0.00020	<0.00028		
Kylenes, tittal	10	0.00032 J	< 0 000 30	<0.00090	<0.00030	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.09050	<0.0005∆U	<0.00050 U
								ļ			·		
SEM-VOLATRE ORGAN	7 3	40.000050 HJ*	<0.000060 U.F	0.0060920*	<0 00005 WL*	<0.000050 U.F.*	0.0000083.JL-6UR.	<0.00045@JL*	<0.00045 UJL*	<0.000026 UJL- SUR, MS/SO*	<0.000036 UJU- SUR,MS/SD	<0.000935 VJL- SVR	<0 000035 U
Pyridine	0.024	د0 000 t0 th	<0.000 t0 m.	<0.00010 W*	<0.00010 WL*	<0.00018.01r.	<0.000043 UJL SUR*	<0.6025 V.IL	<0.0025 U.L.	40 000040 VJL- SUR, M3/SD*	<0.000333 UJL- MS/50	<0.000030 U	<0.000030 U.FL-MS/S
METALS (mg·L)	· · · · · · · · · · · · · · · · · · ·	ļ									<0.0010	0.000716 J	0.00322 UH-MSI,CCI
Arsenit	0 910	<0.0013	<0.0013	<0.0013	<0.0013	<0.6010	0.0012 J	L86000.0	0,0011	<0.00100			
Валял	2.0	0.0898	0.0851	0.109	0.116	0,122	0.517	0.130	0,132	6.136	0.13	0,107	0.153
Cadmium	0.0650	< 0.000083	<0.000080	<0.00090	<0.000E0	<0.00000	<0.00060	<0.00009	<0.60609	<0.0000600	<6.60060	<0 000200 V	<0.000200 U
Chromium :	0.10	<0.0012	<0.0012	0,00220 J	<0.0012	<d 0010<="" td=""><td><9.0010</td><td><0.000.18</td><td><0.000018</td><td><0.00100</td><td><0.0010</td><td>40 000400 U</td><td>0.00109 UH-MB</td></d>	<9.0010	<0.000.18	<0.000018	<0.00100	<0.0010	40 000400 U	0.00109 UH-MB
LEad	0015	<0.00070	0.0608190*	<0.60070	<0.00070	<0.00070	<0.00070	0,00020.1	C-00016-J	<0.000700	<0.00070	<0.0000000 U	0,000967 J
Mesony	0 0020	<0.000042	<0.000042	<0.000042	<0.000342	<0.000042	<0.000010	<0.000012	<0.000012	<0.0000400	<0.000048	<0.0000400 U1- CCB	<0.00000100.U
Selenium	9050	<0.0010	<0.0010	0.00360 J	<0.0010	0 00157 UH*	<0.0018	0.0013J	<0.0011	<0,00100	<0.0010	<0.00110 V	<0.00110.0
Silver	0.12	<0.00050	<0.000000	<0.00030	<0.00000	<0.00080	<0.00000	<0.000056	<d 000066<="" td=""><td><0.000000</td><td><0.00000</td><td>+0 009200 U</td><td><0.0002001 V</td></d>	<0.000000	<0.00000	+0 009200 U	<0.0002001 V
				 				<u> </u>					
OTHER		1								1	1		
Surfate	NA.	5.40	3.61	2.70	253	3 84	327	3 43	3 56	149	3.1	3.13	3.76
Total Dissolv ed Solids	NA.	316	316	308	352	316	340	316	316	298	300	322	339

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	TRRP Tier t Residential							ĐA-02		,				
ANALYTE	PCLs ⁴ °*GW mgt_	DA-02 HAPOM-DA-02 08/04/2011 11/08169-06	DA-02 HAPOM-DA-02-0 11/16/2011 1111590-7	DA-02 HAP-DA02-070612- D 07/04/2012 1207230-02	DA-62 HAP-DA02- 112712-0 11/27/2012 12111017-02	DA-02 HAP-DAUZ- 962013-0 GE/20/2013 1306861-17		1 02/19/2014	DA-02 HAP-DA02-JUL2014 07/10/2014 14970538-03	EA-02 HAP-DA02-080 11/13/2014 14110545-02	DA-02 HAP-0A02-090 5/12/2015 15050676-07	DA-02 HAP-DA02-100 12/16/2015 HS15120788-07	DA-02 HAP-DA02-161 12/16/2015 HS151/20788- DB	DA-02 HAP-DA(02- 6/28/2011 HS16070/0
VOLATILE ORGANIC CO	HAPOUNDS (mail)	ļ			-									
Benzene	0.005	<0.00030	<0.02030	40 00020	<0.00020	<0.00030	<0.000020	<0.0020	<0.000020	0.03345				
£Unylbenzena	8.70	<0.00010	<0.00010	<0.00030	40 00030				ļ	<0.000020	40 00020	<0.00020 U	<0.00020U	<0.00020 U
Totale						<0.000030	<0.00030	<0.00000	<0.00030	<0.00030	<0.00030	<0.00039.ñ	<0.000380 U	< 0.00000 U
	10	0.000124	<0.00010	<0.05030	<0.00030	<0.00030	<9.00020	<0.00020	<0.000030	<0.00020	<0.00020	<0.00028U	<0.0002010	<0.00020 U
Vytenes, total	10	<0.00839	<0.00030	<0.00090	<0.00039	< 9 0000 22	<0.00050	<0.00050	<0.00050	<0.00050	<0.00060	<0 00058U	<0.000050 U	0.0012 J
SEME-VOLATILE ORGAN	IC COMPOUNDS (mg1.)													
Phendi	73	<0.00005 U.T	<0.000050 N3*	<0.000080 rtt.	0.000016.JL*	<0.6000058	<b 500032<="" td=""><td><0 000037 till-SUR*</td><td><0.00047 UJU"</td><td>0.500063 JL-SUR, MS/SD*</td><td><0.000035 UJE- SURJAS/SD</td><td><0 0000035 UJL∙ SUR</td><td>=0 000035 EUL- SUR</td><td><8.000030 U</td>	<0 000037 till-SUR*	<0.00047 UJU"	0.500063 JL-SUR, MS/SD*	<0.000035 UJE- SURJAS/SD	<0 0000035 UJL∙ SUR	=0 000035 EUL- SUR	<8.000030 U
Pyridine	0.024	<0.00010.011,	<0.00010 ft]	<0.00010 VJ*	<0.00010 UJL*	<0.00010	<0.000048	<8 000018 UJL-SVR*	<0.0026 UJL*	<0.000040 W.L. SUR, MS/SO*	<0.000030 UUL- SUR,MS/SD	< 0.0000030 U	<0 000000 LUL SUR	UU 080000 0> OS\2M
METALS (mg-L)														
Avsenic	6010	0.00335J	0,00002 J	0,0036f J	0.00344.J	0.00244 J	0,00307 J	0.00023 J	0.0032	0.00259 J	0.0023	0.00232 J		-HU TBM0.0
Bartum	28	9,328	0,279	0.228	0.205	0.152	0,151	0,146	0.152				0.90236 J	M9,00B
Cadmitum	0.0050	<0.000090	<0.000.00	<0.00080	<0.00080	<0.000000				0.148	0.13	0.162	0.154	0,0893
Chronium	0.10						<0.00090	<0.00050	<d 00009<="" td=""><td><0.080800</td><td><0.00080</td><td><0.000208 U</td><td><0.000200 U</td><td>< D 0 0 0 0 2 0 2 1 1 1</td></d>	<0.080800	<0.00080	<0.000208 U	<0.000200 U	< D 0 0 0 0 2 0 2 1 1 1
		<6:0012	0.00391.1	<0.0012	<0.0012	<0.0016	<0.0010	<0.0010	0.00021 J	<0.00100	<0.0010	<0.000x00.0	<0.006400) U	-HU 519000.0 EM
ead .	0 015	<0.000000	<0.00070	<0.00070	<0.00270	<0.00070	<0.00070	<0.00070	<0.00012	<0.000700	<0.00070	< 0.060500 U	<0.000603 ti	<0.000503 U
Vercury	0 0920	<0.000042	<0.0000842	<0.000042	<0.000042	<0.0000012	<0.0000040	<0.000010	<0.000012	<0.0000400	<0.000040	<0.0000400 UJ- CCB	CCB -0000400 UJ-	<0 00:00400 U
Saleratum	0650	<0.0010	<0.0016	B 60125 U*	<0.0010	<0.0010	<0.0000	<0.0010	<0.0011	<0.00100	<0.0010	40 001100	<0.08110 U	<0.001t0.0
Silver	0.12	<0.00080	<0.000.90	<0.00090	<0.00083	<0.000000	<0.00080	<0.00060	<0.000055	<0.000A00	<0.00030	<0.000200 U	<0.000200 U	<0.000200 U
THER .						-								
ivitate.	HA	9.85	10.2	101	11.7	13.5	995	10.7	990	113	8.7	5.49	5.48	12.4
iotał Diasolyed Selida	NA.	550	470	456	424	384	976	362	310	340	310	324 JI FD	1050 JI-FD	396

					Highia	nus, mains	County, rex	· uu						
							DA-68							
WATALE	TRRP for 1 Festdential PCLS ² °*GW mg/L	DA-05 HAPOM-DA-05 (BLD-V2011 1109188-02	0A-05 HAPON-0A-05-0 19/16/2011 1111590-02	0A-05 HAP-DA05-070512-0 07/05/2012 1207231-01	DA-05 HAP-DAD5-112712-0 11/27/2012 12111017-03	DA-05 HAP-DA95-061913-0 06/19/2013 1306861-03	DA-05 (DJP) HAP- 0A05-061913-1 06/19/2013 1398851-04	DA-05 HAP-DA05- NOV2013 02/19/2014 14021012-14	DA-05 HAP-DA-05- JUL2014 07/10/2014 I&070538-04	0A-65 HAP-DAD5-080 11/13/2014 14115045-03	DA-05 HAP-DA05-090 5/12/2015 15000076-13	DA-05 HAP-DAB5-100 12/16/2015 HS15120768-06	OA-15 HAP-DADS-110 6/28/2016 HS1607/0319-04	€/28/2016
VOLATILE ORGANIC CO	MPOUNDS (mgl)								40 000 20	<0.00026	<0.00020	<0.00020 U	<0.00028U	<0.00030 A
Bergenè	0 005	<0.00030	<0.00030	<0 00020	40 G0920	<0.00020	<0.00020	<0.00020	40000				<0.00030 U	<0.00030 V
		<0.00010	<0.00810	<0.00030	<0.00030	<0.00030	<900030	<0.00030	40 B6030	<0.00030	<0.03030	<0.00030 U		
Emyterzene	0.70			<0.00030	<0.00030	<0.00620	<0.00020	<0.00020	<0.00020	<0.0002∂	<0.00030	<0.00020 U	<0.00020U	<0.00020U
Totuene	10	0,00010 J	<0:000:10				<0.00050	<0.00650	<0.00050	< 0.00030	0.00081 J	<0.00050 U	<0.000080 U	<0.0059V
kytenes, lotal	10	<0.00030	<0.03030	<0.00090	<0.00030	<0.00050	100000							
					<u> </u>			 						
SEME-VOLATILE ORGA	NIC COMPOUNDS (mgl.)	<0.00005 UJ*	<0.000090 U1*	£500074U*	<0.0000000 U.H.*	40 DD0050	<0 0000000 U.J.	<0.000032	<0.00043 MF.	0.00056 JL- SUR, MS/80*	40 000035 U.L. SURJASASO	KO COCKES CUIL- SUR	<0.000€35U	4B0000035U
Phenol	73	(0.0000000	10000000					-		<0.000010 W.L.	40 0000030 UJU	<8.000030 V	<0.000030 U.J.L. N.S./S.D	40 0000000 UJL- MS/SD
Pyriaine	0.024	<0.00010.01.1.	-U01000B>	<0.00010 R*	<0.00010 UJL	40.000 ID	<6.00010 UIL	<0.000918	<0.0024 U.L*	SUR, MS/SD'	MS/SD	-5123377	\$15/5E	Maiau
				<u> </u>		ļ	 						0.0045UH-	0.0043 UR-
METALS (mg/L)			}		0.00483 J	<0.0010	<0.9010	0.00505	0.0011	<bb0100< td=""><td><0.0010</td><td>0.00486 J</td><td>WE'CCB</td><td>Majcca</td></bb0100<>	<0.0010	0.00486 J	WE'CCB	Majcca
Arsen's	0.010	0.00363.J	<0.0913	0.00565	0.00483.3			0,145	0.148	0.149	0.14	0,133	0,0778	8880.0
Barium	20	0.526	0.131	0,173	0.161	¢.157	0.155				· «D 00080	<0.0002000 U	<0.000200 U	<0.000200 U
	0 5050	<0.00080	<0 D0060	<0.000393	40.00090	<0.00080	<0.00000	< 9 80060	<0.00009	<0.000500				0,0087 JEFD
Cadmium		<0.0012	0,00157 J	<0.0012	<0.9912	<0.0010	<0.0010	<0.0010	0.00026-1	<0.00100	<0.0010	40 0004000 U	0,00481 3.70	
Creamium	0.10		ļ		<0.00070	10 00070	<0.00076	<0.00070	0.60023.4	<0.000700	<0.00070	40 000600 U	0.00304.1	0.003733
Lead	6 015	<0.09070	<1) 00070	<0.00010			<0.000042	<0.0000010	<0.000012	<0.0000408	<0.000010	<0.0000100 UJ	< B 00000400 U	<b 0000400="" td="" u<="">
stercury	0 0020	<0.000042	<0.000042	<0.000042	<0.000042	40 000042	+		<0.0011	<0.00160	<0.0010	<0.00110.0	<0.0011BU	40 00110 U
Seenium	9 050	<0.0010	<0.0010	L 89600.0	0,0011B J	0 03195 UH*	860116UH*	<0.0010					<0.0002000 U	<0.090200 V
	0 12	<0.00090	<0.000890	<0.00090	<0.00080	<0.00090	<0.00089	<0.00093	<0.000056	<0.000630	<0.00080	40 000000 U	1000000	
Sever	- 012	-			 				1	l				
	<u> </u>			↓	+	+	+						1	1
CT HER		ļ					 	245	387	37.9	37	0.313	6.07	5.16
Sulfate	· na	434	4,920	0.836	0 626	39.2	40.1	160	329	319	350	314	152	176
Total Dissolved Solids	NA	318	318	643	296	314	328	159	1 325					

	TRRP Tier 1 Residents		J	1			DA-0	xi x					
ANAL YTE	PCLS* **GV/ _{NO} mg1.	DA-06 HAPOM-DA-06 08/04/2011 1108/88-04	DA-06 HAPOM-DA-06-0 11/16/2011 1111590-03	0A-05 HAP 0M-DA-06-1 11/16/2011 1111596-04	EA-05 HAP-DAIG-970512-3 97/05/2612 1207231-97	DA-06 HAP-DA06-112712-1 11/27/2012 12111017-04	QA-66 HAP-QA06-051913-0 05/19/2013 1306661-02	0A-06 HAP-QAD5-NOV2013 02/19/2014 14021012-15	DA-06 HAP-CAD6-JULZD14 07/10/2014 14070538-05	DA-06 HAP-DA06-080 11/13/2014 14110545-04	DA-06 HAP-DA06-090 5/14/2015 15050676-12	0A-05 HAP-0A06-10 12/15/2015 HS15120786-0	6/09/20
YOLATILE ORGANIC C	OMPOUNDS (mg.L)	 	 								<u> </u>	 -	
Bergere	0.005	<0.00030	<0.00030	<0.00330	<0.00020	< 0.000020	<0.00020						
Ethylaterzene	070	<0.00010	<0.00010	<0.00010	<0.00030	<0.00030	<0.00030	< D 00020	<0.00026	<0.00020	<0.00020	<0.00626.0	<0.00020
Tobere	10	0.00010013	<0.000 to	<0.00610	<0.00030	*0.00030		<0.00030	<0 (90030)	<0.00030	<0.00000	<0.00030 N	<d 00030<="" td=""></d>
Nenes, total	10	<0.00030	<0.00030	<0.00030	<0.00090		<0.00020	<0.00020	<0.690020}	<0.00020	<0.00020	<6 00020 U	<0.00020
						<0.00030	<0.00050	< 0.00050	<0.00050	<0.00050	<0.000000	<0.00050 Ų	<0.00050
SEMI-VOLATRE ORGAI	NC COMPOUNDS (mpt.)												
Phenol	73	<0.00002 D14	⊀0 860050 ⊍J*	<0 0000250 U.1*	<0.000050 UJ*	<0.000000 LUL*	<0.000050	0.09006EZ J	<0.00046 FUIT	0 000026 UJL- SUR, MS/50*	< 0.600035 U.J., SURMS/SD	<0 000035 U	<0.000035
ytlöne	D.D24	<0.00010101	<0.00010 m1.	<d 000010="" td="" uj*<=""><td><0.00010 R*</td><td><0.00010 UJL*</td><td>< 0 DOD 10</td><td>816000 G></td><td><0.0025 UJL*</td><td>0 0000-s0 U.IL. SUR, MS/SO*</td><td><0.000030 U.L. MS/S0</td><td><0.000030 U</td><td><0.000030U MS/SD</td></d>	<0.00010 R*	<0.00010 UJL*	< 0 DOD 10	816000 G>	<0.0025 UJL*	0 0000-s0 U.IL. SUR, MS/SO*	<0.000030 U.L. MS/S0	<0.000030 U	<0.000030U MS/SD
ETALS (mgl)													9,350
rseniç	0100	<0.0013	£100.6>	<0.0013	<0.0013	<0.0013	<0.0016	<0.0010					
ādum	20	0.117	0.110	0.107	0.526	0.528	0,136		<0.80042	<0.00100	<0.0010	<0.000460 U	0.00329 UH MH,CCB
admium	0 0050	<0.000ep	<0.000000	<0.000000	<0.00090	<0.000au	<0.00080	0.129	0.131	0.130	0.12	9,121	0.108
roniun	0.10	<0.0012	<0.0012	0.00127 J	<0.0012	<0.0012	6,00102.4	<0.00089	<0.0000B	<0.0000000	<0.00080	40.000000 U	< 0.00002000-0
30	0.015	<8.000370	<0.000.00	<0.00070	<0.00070	0.00123J		<0.0010	<8 B00 18	<0.00100	<0.0010	<0.0003400 U	0.000922 UH-A
rcury	8 0020	<0.000042	<0.000012	<0.000042	<0.000012	<0.000042	<0.00070	<0.00076	<0.00015	<0.000700	<0.00X378	< 0 (000000 U	40 600600 U
fenium	0.050	<80018	<0.0010	<600010	0.00250.1		<0.000042	<0.000040	<0.030012	<0.0000400	<0.00004B	CCB CCB	<0 (III)00)4(6) (
ver	0 12	<0.000a0	<0.000000	<0.00000		<0.0016	0.001160H*	<0.0010	<0.0011	<0.00100	40.0010	40 80 I 10 U	<0.00118U
				TO CALLED	<0 D90(n)	<0.00000	<0.00090	<0.00060	<0.000056	<0.000000	<0.00000	<0.007209 U	<0.0002091U
HER			-+										
fate	NA -	36											
al Diasolved Solida		\longrightarrow	230	2.20	249	2 38	3 60	2 82	3 26	4.96	7.8	3.14	4.29
	RA	318	322	312	760	360	938	304	348	300	360	316	348

		· · · · · · · · · · · · · · · · · · ·			ragilian	ds, Harris C	DA-09	10				
ANALYTE	TRRP Ter t Resternal PCLs* cwGW mg/L	DA-58	0A-08 HAPOM-DA-09-0 11/17/2011 11/16/9-01	DA-03 HAP-DA08-070612-0 07/06/2012 12\)7230-08	DA-08 HAP-DA98-112712-0 11/27/2012 12111017-05	EA 69 HAP-DA09-062013-0 06/30/2013 1306661-15	DA-03 HAP-0A66- HOV3913 92/20/2014 14021012-23	DA-08 HAP-QAQB-JUL2014 07/10/2014 140/70/538-06	DA-08 HAP-DA08-086 11/13/2014 141 10545-05	DA-08 NAP-DA08-060 05/14/2015 15050676-05	DA-03 HAP-DA08-100 12/15/2015 HS 15120788-03	DA-68 HAP-DADS-116 6/27/2016 HS160/70019-0
YOLATILE ORBANIC CO	AMOUNT (mad)											
Serzere	0 005	<0.00030	<0.00033	<0.006020	<0.00020	<0.00020	<0.00000	<0.00020	< 9.00020	<0.00020	<0.00020 U	0,00025.J
Ethylbergena	0.70	4B 00010	<0.00010	<0 mx03m	<0.00030	<0.00030	<0.00030	<0.00033	<0.00030	<0.00030	<0.00030 U	<0.00030 U
	10	0.0001489*	<0.00010	<0 moon	<0.00030	<0.00020	<0.00029	<0.00023	<0.00020	<0.00020	<8 00020 U	<0.0002€U
Toluene					<0.00030	<0.00050	<0.00050	<0.00090	<0.00050	<0.00060	<0 00050 U	40 00050 U
Ayrenes, total	10	<0.00030	0.00032.3	<0.00090	KU 00030	*Q II.030	*0.00030	100000	40 00030	100000	1000200	10000300
SEME-VOLATRE ORGAN	COMPOUNDS (mg/L)											
Phend	73	<0.000050 U3*	<0.030660	<0.000050 m²	<0.000850 UJL*	<0.000050	<0.000032	<0.00044 W.L*	<0.000026 W.LSUR, MS/SD*	<0.089035 UJL- SUR,MS/SO	<0.000036 UJL-SVR	<0.000035 U
Pyridave	D D24	< 0.00010 UJ	<0.00010	<0.00010.011	<0.00010 UJL*	<0.00010	<0.0000348	<0.0024 U.S.*	<0.000040 UULAIS/SD*	<0.000030 VJL- MS/SO	<0.00KID3D V.JL-SUR	0.00009 JL - M9/50
												-
METALS (mg·L)	D 010	0,00179.3	0.00153 J	0.00200.0	0.00183 J	L C2100.0	0,00147 J	0.0014	L 85100,0	0.0019 J	0,0015 3	0.00460 UNI- MD,CCB
Barlum	20	0,0904	0.0846	0.0828	0.501	0.103	0.0591	0.124	0.168	0.12	0.0851	0.117
Cadenkon	0 0050	<0.00030	<0.00080	<0.00090	<0.00080	<0.00000	<0.00030	<0.00003	<0.000000	<0.00000	<0.000203.U	<0.000200 U
Criromium	D.10	<0.0012	<0.0012	<0.0312	<0.0012	0.0034T J	<0.001B	0.0027	0,00014 J	<0.0010	0.00164 UH-RB	0.00157 UH-ME
	0.15	<0.00070	0 000724 6*	<0.00070	<0.00070	<0.00070	<0.06970	×0 00012	<0.000700	<0.00070	<0.000600 U	0.00064J
Lead	0.0029	<0.0000042	<0.000042	<0.000012	<0.000042	<0.000042	<0.000040 UJL-M5*	<0.000015	<0.0000400		<8 0003400 UJ-CCB	<0.0000400 U
Vertury	ļ		 		<0.0010	<0.0010	<0.0010	<0.0011	<0.00100	<0.0010	<0.00110 U	<0.0011010
Selection	0.050	<0.0010	<0.0010	0 00205 UT								
5iver	0.12	<0.00090	<0.00080	<0.00090	<0.000088	<0.00080	<0.01080	<0.000056	< 0.0000000	<0.00060	<0.000200 U	< 6 (10K7200 U
	<u> </u>	<u> </u>										
OTHER		ļ										
Sulfate	NA	5 78	562	4 87	3 24	7.76	4.62	542	- (19	4.1	4.45	5.24
Total Dissolved Solids	NA	396	386	626	468	420	772	404	443	400	524	420

	JRRP Tor 1 Resident N					SW-01						1	ľ
RKYTÁLÉ	PCLs* °"GW mgt	574-01 July-5001-0712-3 gt/()42012 1207234-09	\$W:01 HAP-\$W00-112912-0 11/25/2012 12111076-05	5W-81 (DUP) HUP- 5W31-112912-1 11/23/2012 12/31/816/85	\$W-01 HAP-5W81-062113-3 092192313 130683-08	57V-01 HAP-5W01-NOV2013 3 03/20/2014 14021011-02	\$14-01 HAP-53901-3U-2914 07/1 U-2914 14070603-01	574-B1 1414-57481-050 6114-0541-05	5/V81 (DLP) HAP-5/401-019 0/915/2015 14110541-05	SW-81 (0029) 9449-5W01-093 85759-2015 84110561-06	\$W-01 HAP-SW01-080 12/16/2015 HS15120825-10	5%-81 HAP-\$W01-110 E/38/2018 H5160/E/319-28	SW-01 HAP-SW01-111 6/05/2016 HS1607(0)19-29
VOLATILE ORGANIC CO	DIFFORMUS (mgc)					-				-	 		
dereone	0.035	+9 C0020	±0.00320	<0.00018	<0.00920	0.0013	+9 60920	<0.00020	-9.08020	+0.602V4	<0.65020 U	49 DOMS U	(0.80020 U
Emykerzere	0.70	+9 00030	40.00000	10 00039	40.00000	0.00030	*0.00830	40 00033	+605033	+9 00030	+0.000000 U	*00000 U	10000000
Totuene	10	-0.00000	+0.00930	*B 60000	+0.00329	+0.00020	+0.090.10	*0 toods0	48 00029	=0.000228	40.00000 U	-0 GOD20 U	10 00020 U
Cylenes, total	10	+0 0004g	<0.000,000	49.00030	-0.98050	+0 0€950	<0.06019	48 09360	+8.20050	×0 DB050	40 00000 U	<0.69650 U	1000059 U
SEM WHATE GROW	IC COMPOUNDS (mgs.)												
Phenot	7.3	41880060 ULT	49,000550 U.E.*	ብመ <u>ን</u> ድያ ሆለት	<0.000950	<0 D00032	-0000005 UJL*	-0 000026 LULSUR, MS/SD*	AND UNITED	<0.000025 UJU-SUR, WS/SD*	-¢¤cors lus.sur	40 000005 LLAL- LCS,SUR, MS/SD	-0009035 U.S. LCS, SUR, MS/SO
Pyridine	0.034	-0.00010 U.T	40 TEXHO LUXU*	40 000100 PYF+	1000010	+0 0000115	400000 U.S.	#0 0000040 EATLACK ME/SD*	-000000 LUL-SUR, LCS, MEVED*	<0000049 U.ASUR, LCS, WS/SO*	4) ADDRESSED UF	49 000000 UJLLCS/MS/50	-00000300 FC87W272D
METALS (mol.)													
Azseric	0.010	6.94e25 J	10.9055	E49331 J	THE T	+0.5050	-00000 A.*	±0.00500	-0 DOSC-0	40,00503	B.84224 J	AAAAA UKARI,CCB	PROPERT THE PROJECTS
Baram	2.0	0.133	2.46	£153	8-9744	0.0001	0.076	0.105 ·	6,107	B. 107	0.04%	0.0619	0.0612
Cadmium	0 006	40 Capito	-06940	+0.00050	100016	+9 00080	r0.60009	+0 00 603	+0.00400	*0.80.00	-0 0001300 U	49.000200 U	40 000203 U
Elizeralum	0.10	+00013	+9 G360	AMIES J	18 9029	+0:00:50	Emotit 1	+0 80505	<0.09500	<0.00564	DEEDST LINCOLD	BA-INI TROVAD	LM211 (FLAG
Lesd	0.615	+9 00070	+0.0015	E 11596.6	-0 COt 4	-0 0035	0.00077	*0 CONO	=0.69350	1060359	1.44164.0	PHO J	REHTZ J
Verwy	0.0920	+S (000042	+B 009242	+0.000045	40.550042	+0.000040 LUE-MS*	-0.000012	+0.0000409	19 (0160100	+0:00:00+00	10 022010010	+0.0009400 U	*4.0060400 U
Selenum	0 550	FLUX A.	0.94521 J	43914.7	-0.0020	=0.0059	-0 D01†	C 16594.0	R44561 J	065561.3	40 GO 110 D	AMMI DH-CCS	PWS#1 OHCC#
Sher	012	+9 00080	-0 0040	·9 c6555	-0.00t6	+0.00080	+0 0000255	<0.00.030	-0.06403	+509409	49.0000000 U	+0.000200 U	40 000250 U

	1						2A4-03							
UHALYTE	PCLs* PCLs* Mys.	\$W-82 HAP-9/Y02-0712-0 07/06/2012 1207234-05	\$1742 (DLP) HIP. \$1762-9712-1 077052012 1207234-06	594-02 Hup-sw02-112512-0 1125-2012 1211-1016-03	\$W-02 HAP \$W82652112-0 69216713 1.X4868.06	5Y-07 (DLF) HAP- 5W07-052113-1 C4/21/2013 1303588-05	5W-02 HLP-5W02-NOV2013 83202014 14031914-06	\$4-02 (BUP) HAP-SW03-NOV2013-1 B2/202514 14021014-08	5W-02 HAP-5W02-AR-XII4) 07/11/2014 14076463-02	514-02 Hup-51403-080 514442056 16510564-07	\$W-02 Hap-5W02-090 6515/2015 15080676-28	5/4/22 (DUP) HAP-5/W92-091 05/19/2015 15/25/616-29	SW-02 HAP-SW07-100 12/18/7015 HS15/20025-11	544-02 640-2516 640-2516 H518276019-30
	1, 1,				40177000000									
VOLATER ORGANIC CO	HAPOUNDS (mg L)												· ·	
@srue/re	0.005	+0.00223	8.00079 J	+0.00/324	40 60020	<u 00020<="" td=""><td>0.0041</td><td>orcora</td><td>-2 (00029</td><td>10 00 020</td><td>+0.00030</td><td>*\$ 0.0020</td><td><103020 U</td><td>-0 00020 U</td></u>	0.0041	orcora	-2 (00029	10 00 020	+0.00030	*\$ 0.0020	<103020 U	-0 00020 U
Empterera	0.70	+1 00033	• 0.00030	<0.00330	+9.00030	<0.00030	-0.00930	46 02030	-1.06039	49 62:930	40 00030	+0.00030	-0.03030 U	-0 89896 U
Tokare	1.6	40 BC 930	49 00/330	40.00/336	+8 50020	<₽.00000 00000.0≥	+0.00920	<8 00020	49 00030	*0.00000	×0.09220	+6 0/9920	<0.000 U	40 000030 FA
Xylenes, Istal	10	40 CCO93	•0 00010	-0.07930	+0.00050	+0.00050	-0 00990	*# 00050	-8,03050	1200150	<0.000250	+8 00050	<0,0000 U	4) 89653 U
	K COMPOUNDS (mgL)													
Phenoi	7.3	L 370MA	-0 600000 UJ	4000050 DR.	40 0009H0	-0 000093	+0.00003s	10 000036	40000036 CUL*	43 039228 CULSUR W3/50*	307035 UIL-	10 (000035 U.K. SURLWS/SD	400000 UN-SUR	-DOMEST U.S LCS_ME/SD
Pyridine	0.024	-0.00010 UJT	40 00016 LUP	49.00010 U.R.*	-9 50010	+9.60010	*000051 U/LFD	FIRMSS TADA	40000040 U.L.	#2720+ 43000243 FMF1C22*	E4 M435 .Q SUR,MS/SD	40 0000000 U.R. SUR(MS/SE)	-aquoqqqa ù	-DOC-9839 U.A LCS,MS/SD
METALS (mgt.)														
Artiris	0.010	AANUN J	446475 .)	+0.0065	8.84455 J	UMIJ	+0.0050	8.86582 J	(.M.) I .M.*	40.00500	4.9012 J	5.0032	E44184 J	BURNS BH-MO,CC
8 erturn	20	0.122	0.420	R, 145	0.033	9.6934	4.0500	0.0%20	7025	0.105	0.091	4.063	0.0095	0.0587
Cednium	0.005	<0.00000	40.000e0	<8.COID	19 00050	-84/200	<0.000 BO	+9 00030	40 00 00	+0.00+20	*9 00060	-5 60056	+01000200 U	<0.003200 U
avantm	010	40 G9F2	40 001 2	+50000	+0.00tD	FIRM 1	10 8060	4 G CDS G	0.0611	+0 00900	0.0056	ELDOS4	DUDIE UHCCO	8.89261 UH-148 .
Lead	. 0815	40.00020	<0.00070	INO 1	F 155 E25 23	644112 J	LMIM J	ENDS 1	MHH J	+2 00 353	0.0564	0.0078	LH(H)	AM145 J
Vescury	8 (49.20	49.000042	+0 000042	40.000012	46 000042	10 000042	-0000040 tun.us	4) 933049 ETF 1424	<0.000012	48 0000E400	40 DODS#3	+0.000540	<0.00001400 U	10 0000400 U
Seienten	0.000	060155 U*	0.002301 U*	man)	0.04254 J	これ は は り	40.000	40 005Q	±0 €011	+0.00509	0001 LB4-CCB	0.0011 FFF CCB	4000110 U	THE MITTER
Skar	0.52	+0 00080	0.00020	10000	+0.00550	·0.092E9	L0.9348	v0 000843	-9 5300 55	-0.00100	-6 00000	-060030	+6 006590 U	40 MG 2250 U

	7											
	TREP Ter 1 Passiontial	L					6W	140				
MALVIE	PCUS" ""GAY., mpL	\$W-03 HWP-5W02-0712-0 87/08-2312 1207214-03	597-03 HMP-59703-112912-3 11/29/2012 12/11018-02	\$W-03 PAP-\$W03-062113-0 08/21/2913 1306088-02	SW-03 HAR-SW03 NOV2013 02/207/014 14/02/014-03	547-03 9447-59405-34-2914 9371172014 14070803-03	594-03 (DUP) HAP-5W03-KR2014-1 97/11/2014 160/30603-04	5V-03 HAP-SW03-023 55/14/2014 54)10343-08	\$94-03 1444-\$9403-090 \$152045 15350674-36	597-83 HAP-54-03-103 12/18-2015 HG15120126-12	5W-03 HA-P-5W43-161 12/18/2015 HS15120026-13	5:4-03 H4P-5WID-113 6:307316 H51:070319-31
VOLATALE ORGANIC CO	MPOLIKOS (mpl.)								<u> </u>			
54/2:804	0 605	C 2100010	<8 0002B	A.Deed I J	-a.coozs	*0.00020	40.00020	0.020	+0.00020	84HH J.FD	LOUIL JATO	+0.00000 U
Etyzerzara	0.78	18 60039	r9 60033	<0.00030	<\$ 00033	<0.02/30	=0.60330	<9.06030	48 6003O	400000 U	<0.00035 U	<0.0000 U
Telene	1.0	+9.6003/2	+#-04039	10 00030	+0.00020	-9 00020	<9 GG-720	+0 00030	+6.0001G	40.00020 U	49,00020 U	-0 60000 U
tylenes, talai	10	10 000 50	49 60 836 49 60 836	-9.0G05B	+6 00Q40	<0.00020	49 00050	48 00059	-a mm.co	•0.500553 U	-emme n	43,00053 U
SEMPOLATRE ORGAN	C COMPOUNDS (mg/L)											
Phenol	2.3	-200000 Ur	-6.000000 EUR,*	46 000050	40 0000000 LTAT	*0.000008 LUKY	-0 000026 tot-	CMM12 I SERMEND	-000000 CULSORWSSD	=0 000035 U	<0.000005 U	+8000016 LUL- LCS,WS/SD
Pyritine	0.024	-0.00010 tim	-0.00010 UR.*	almys J	40 DD0045	40 0000040 LURL*	40 000040 U.S.	19 0000 FD FT FT FT FT FT FT FT FT FT FT FT FT FT	40 000000 U.S. SUM, US/SD	400000a U	<0.000000 U	40,00000 U.K. LCS,WS/SO
METALS (Ampl.)	1											
Artenik	6 810	L BICHAR	-1 0065	6.00305 J	*B.0660	4905.31	MBI L'	+0.00500	LARIS 2	1497 3	LACO J	LINES UNMECON
8aram	20	R(1)	0.162	ens	0.0090	1.050	4.074	9.510	0.074	B.0640	8,0624	8.06M
Cadmium	0.005	49 80080	-0 0046	4\$ 500k9	+0 (0)680	<0.00000	-0.0000	100000	46 50050	+0.000200 U	40 000200 U	*0.000300 U
Chronium	0.10	40.0012	<0.0048	40.0010	+0.6064	L mana	8.06071 J	40.00508	8,0030	8002HS UNLCCE	ONDE DISCO	6-14724 UNI-60
Lead	0.615	40 B0076	E3144 3	+0.00970	1.000 121 5	FEMS 1.	Am(1.5°	*G D8358	0.0028	L MINSA	MH J	MAINS J
tatur	0.0550	+9.000042	40.000042	+0.000042	-0.000040 UJL-145*	<0.600012	49 603012	+6 000 H23	19 600040	-0.0008400U	+0 00000H02 D	11 0045000 2+
Selection.	0 650	4.60112 L/T	4.00687 3	EMM241 J	40.0050	48 (012	190011	+0.00502	r0.5010	40,00110 U	*0.00110 D	B.MZSZ UN-CCB
i kare	012	+6.92580	-2.00:00	<0.00080	<0.020.00	+0.05(2)16	46 000054	×9.00×00	10.00040	48.000200 U	40.000200 (J	4000000 U

Table 3 2015 Semi-Annual Groundwater Monitoring Report Sediment Analytical Data

						50-01							
ANALYTE	TRRP Tier 1 Residential ^a **Sol _{com} mg/kg	SD-01 HAP-SD01-0712-0 07/02/2012 1207234-07	SD-01 HAP-SD01-112912-0 11/29/2012 12111018-07	SD-01 (DUP) HAP-SD01- 112912-1 11/29/2012 12111016-08	58-91 HAP-5001- 862113-3 06/21/2013 1306889-07	\$D-01 HAP-\$001- NOV2813-3 02/78/2014 14921814-01	SD-01 HAP-SD01- JUL2014 07/11/2014 14070603-05	SE-01 HAP-S001-080 11/14/2014 14110541-01	SB-01 (BUP) HAP-S001-081 11/14/2014 14110541-02	SD-01 HAP-SD01-093 5/15/2015 14110541-01	SD-01 HAP-SD01+100 12/18/2015 HS 15120826-08	SD-81 HAP-SD81-110 8/30/2016 HS18070019-24	SD-01 HAP-SD01-11 B/30/2016 HS16070019-2
VOLATILE ORGANIC	COMPOUNDS (mg/kg)											<0.000461)	<1 80048 U
Benzane	89	<0.00030	<0.00071	<0 00068	<0.08048	<0.00350	<0.00064	<0.00087	<0.00084	<0.00059	<0.80048 U		<0.00088 U
Ethylogorene	5300	<0.00045	<0.0011	<0.56098	<0.00072	<0.00078	<0.00096	<0.0010	<0.00097	<0.00089	<0.00064 U	<0.00064 U	<0.00058 U
Talvene	5400	<0.00035	<0.00083	<0.00077	<0.00056	<0.00059	<0.00075	<0.00078	<0.00076	<0.00069	<0.00056 U	<0.60055 U	
Xylenes, total	3700 8	<0.0013	<0.0031	<0.0028	48 0014	<0.0014	<0.0018	<0.0319	<0.0018	<0.0017	<0.0022 U	<0.0022 U	<0.0923 U
SEM-YOLATILE ORG	SANIC COMPOUNDS (mg/kg)				<u> </u>								
Phenal	20000	<0.0026	<0.0025	<0.6024	<0.00081 UJL*	<0.09076	<0.060	0.0026 J	0.0025 J	<8 0013	<0.0018 U	<0.0049 U	<0.0841 U
Pyridene	82	<0.0028 UJ*	<0 0025 UJL*	<0.0024 UJL*	<0.0013 UJL*	<0.00099 UJL- MS/SD*	<0.037	<0.0018 UJL- MS/SD*	<0.0018	<0.0011	<0.0015 UJL- MS/SD	0.0072 J	<0.0034 U
METALS (mg/kg)							<u> </u>						1.14 JR-FD
Arsenc	24	0.270 J	0.202 J	6.221 J	0.167 J	0.147 J	<0.33	0.243 J	0.229 J	0.54 J	0.346 J	0.669 JHFD	
Barium	9100	2,35	1,33 JI*	2.01 Jr	1,55	1.44	3.3 J	1.39	1.45	6.3 JL-DL	4.63	8.46 JH-MS	8.69 JH-MS
Cadmium	52	<0.062	<0.061	<0.051	<0 047	<0.048	<0.08	<0.0575	<0.0697	<0.060	<0.0650 U	<8.0579 U	0.0729 J
Chromium	27660	0.5N4 J	0.259 J	0.297 J	0,293 J	0.278 J	0.76 J	0.476 UH-CCH*	0.436 J	2.5	0.63 J	6,12 UH-149	4,8 UH-MS
Lead	500	1,68	1.09	0.982	1.05	1.00	1.60 J	128	1,06	6.5 J-D	2,03	4.6 JHFD	9.49 JI-FD
Mercury	2.t	0.000828 J	0.00122 J	0.00179 J	<0.90063	<0.00048	0,0021 J	0,00130J	L 025000.0	0.0040	0.00212 J	0.00347 JI-FD	6.6128 JI-FD
Setenium	310	0.272 J	<0.22	<0.18	<0.17	<0.17	<0.51	<0.243	<0.247	0.26 J	<0.240 U	0.25 UH-CCB	<0.211 U
Siher	97	<0.099	<0.098	<0.082	<0.075	<0.07B	<0.029	0.170 UH-CCH	<8.0110	<0.095	<0.110 U	<0.0926 U	<0.0938 0

Table 3 2015 Semi-Annual Groundwater Monitoring Report Sediment Analytical Data

	i		·			5D-02							
ANALYTE	TRRP Ter 1 Residenbal ^r Telsolitema mg/kg	SD-02 HAP-SD02-0712-3 07/08/2012 1207234-04	SD-02 HAF-SD02-117812-0 11/29/2012 12111016-04	\$D-82 HAP-\$D02-062113-0 08/21/2013 1306688-03	SC-02 (DUP) HAP- SD02-0821 (3-1 08/21/2013 1306988-04	SD-82 HAP-SD02-NOV2013 62/20/2014 14021014-07	SD-62 (DUP) HAP-SD02- NOVZ613-1 02/20/2014 14021814-00	SD-92 HAP-5002- JUL2014-3 07/11/2014 14070603-08	SD-02 HAP-SD02-880 11/14/2014 14110541-03	SD-02 HAP-SD02-050 05/15/2015 15050876-23	SD-B2 (DUP) HAP-SD02-891 05/15/2015 15950876-24	5D-02 HAP-SD02-103 12/18/2015 HS15120826-07	SD-02 HAP-SD02-110 6/30/16 HS16070019-26
VOLATLE ORGANI	IC COMPOUNDS (mg/kg)		<u> </u>										
Senzeлe	89	<0.00035	<0.00068	<0.000B1	<0.00056	<0.00054	<0.00055	<0.00006					
Ethylbenzene	5300	<0.00053	<0.09089	<6.00092	<0.00084	<0.00034 <0.00081	-0.00092		<0.00070	<0.00055	<0.00059	<0.00062 U	<0.80048 U
Toluene	5400	<0.00041	83000 O>	<0.00072	<0.00066	<0.00063 <0.00063		<0.00038	<0.0011	<0.00003	<0.00097	<0.00087 U	<9 00089 U
Xylenes, total	3700 G	<0.0015	<0.0028	90.0017			<0.000.64	<0.00078	<0.000002	<0.00065	<0.60068	<0.00074 U	<0.00059 U
,	1	-0.0010	10.0026	40.0017	<0.0816	<0.0015	<0.0015	<0.0019	<0.0020	<0.0018	<0.0016	<0.0030 U	<0.0024 U
SEM-YOLATILE DE	RGANIC COMPOUNDS (mg/kg)												
Phenoi	20000	5.8 J	<0.0024 U.L.*	<0.00089 UUL	<0.00080 UAL*	40 00070 WE-SUR	0,0021 J	<0.056	0,0041 J	<0.0013	<0.0014	<0.0019 U	<0.0040FU
Pyridine	82	<0.09511 U.P	<0 0024 U.L.*	<0.0013 f)][*	<0.0013 UUL*	<0.0010 LUL SURMS/SD	<0.0010	<0.034	<0.0018	<0.0011	<0.0011	<0.0015 UJL- MS/SO	<0.0033 U
METALS (mg/kg)	_L												
Arsenic	24	0.964	0.540	0,395 J	0.0403 J	0.340 J	0.362 J	0.35 J	0,651 J				
Barium .	8100	8,59	2.09	2.27 JF	4.05 Jr	2.18	2.24	6.6 J		1.1 JI FD	0,51	2.60	0.552
Cadmium	52	0.115 J	<0.053 ·	<0.046	<0.049	<0.048	0.0622 J		3,80	17 JL-01,FD	8.7	15.1	6.55 JHHS
Chromium	27000	1,84	0.68	0.422 J	0.556	0.662	0.0522.3	<0.05	<0.0872	<0.060	<0 062	0.0849 J	0,0846 J
ead	500	19.6	132	3.03	2,52			1.1 J	0.816	6.2	3.3	4.56	3.05 LD+A49
dercury	2.1	0.00344 J	0.000426 J	<0.00000		3.91	3.9	5.10	3,62	12	7.9	71.1	5.68
Selenium	310	0.278 J	<0.19		<0.00061	<0.00D48	<0.09048	9.0036 J	0.00439 J	0.612	0,026	0.0404	0.00695
Silver	97	<0.092		0.299 J	0.239 J	<0.17	<0.18	<0.30	<0.242	0.26	0.23	0.411 J	0.263 UH-CCB
/4121	87	40 092	<0.084	<0.074	<0.078	<0.877	<0.079	<0.017	<0.108	<0.096	<0.099	<0.110.U	<0.0959 U

Table 3 2015 Semi-Annual Groundwater Monitoring Report Sediment Analytical Data

							50-03						
ANALYTE	TREP Tier 1 Residential* 1*Soil mg/kg	SD-03 HAP-SD03-0712-0 07/08/2012 1207234-01	SO-03 (OUP) HAP- SO03-0712-1 07-08/2012 1207234-07	SD-93 HAP-SD03-112912-3 11/29/2012 12111016-01	SD-03 HAP-SD03- 062113-0 06/21/2013 1306888-01	SD-03 HAP-SD03- NOV2013 02/20/2014 14021014-04	SB-03 HAP-SD03- JUL2014 07/11/2014 14070893-97	50-03 (EUP) HAP-SD03- JUL2014-1 07/11/2014 14070803-08	5D-03 HAP-5D03-099 11/14/2014 14110541-04	9D-03 HAP-SD03-080 05/15/2015 15050876-28	SO-03 HAP-SO03-100 12/19/2015 HS15120926-09	SD-03 HAP-SD03-101 12/18/2015 HS15120826-09	SD-03 HAP-SD03-11: 8/30/16 HS16070018-2
VOLATILE DRIGANIC	COMPOUNDS (mg/kg)												
Benzens	69	< 0.00029	<0.00039	<0.00065	\$8000.0>	<3.00048	<0.00074	<0 60081	<0.00078	<0 80057	<0.80070 U	<0.00056 ⊍	<0.008\$1 U
Ethylbenzene	5300	<0.80044	<0.00058	<0.00097	<0.0010	<0.00872	<0.0011	<0.0012	<0.0912	<0.60085	<0.00098 U	<0.08079 U	<0 09665 U
Toluene	5400	<0.00034	<6.00045	<0.00075	<0.00079	<0.09058	<0.00087	<0.00095	<0.00090	< 0.00056	<5 00084 U	<0.00087 U	0.0036 J
Xylenes, Lotal	3700 0	<0.0013	<0.0017	<0.0028	<0.0019	<0.0014	40 0021	<0.0023	- <0 D022	<0.0018	<0.0033 ft	<0.0027 U	.<0 0029 U
SEMI-VOLATILE ORG	ANIC COMPOUNDS (mg/kg)										* -		
Phenoi	20000	<0.0025 UJ*	<0.0028	<0.0028	0 0060 JL*	<0.00070	<0.069	-0.070 U.U.	<0.0025	< 0.0014	<0.0020 U	<0.0019 UJL-SUR	<0 8045 U
Pyridine	82	<0.0925 UJ*	<0.0028 A7.	<0.0026 UJL*	<0.0015 UJL*	<0.0010	<0.042	<0.043 U.L.	<0.0021	<0.0011	0.0041 JL-MS/SD	<0.0018 U.H MS/SO	0.21
WETALS (mg/kg)													:
Arsenic	24	0.4983	0.551 J	1.20	13,0	0.858	1.1 J	0.59 J	1.41	0.84	1.62	1.96	1.05
Basium	8100	5.37	3.65	12.4	7.8	6.12	19	18	6.35	6,3 JL-DL	7.40	9,11	12.3 JHHS
Cadmium	52	<0.054	<0.050	0.0667 J	<0.050	<0.049	<0.07	<0.0B	<0.0785	<0.063	<0.0739 U	<0 0880 U	<0.0€63 U
Chromium	27000	606.0	0.910	221	1.19	1.79	4.3 J	5,1 J	1.45	2,0	1.69	1.81	3.99 UH-JAD
Lead	500	2.00 J	2.24 J*	4,94	3.16	3.47	6.60	7.50	5.97	8.5 J-D	4.56	4.54	6.76
Mercury	2.1	6.00115 J	0.994.1	0.0112	0.00275 J	0.00275 J	0,0112	0.0155	0.00582	0.019	0,00870	0.0116	0.00517
Selenium	310	0,311 J	0,361 J	0.316 J	0,462 J	0.223 J	≈0.4†	<0.35	0.671 J	0.29 3	0.643 J	0,594 J	0.259 UH-CCB
Silver	97	40.088	<0.099	<0.099	<0.092	<0.079	<0.074	0,022 J	<0.128	<0.10	<0.120 U	<9.t10 U	<0.186 U

Water and Sediment Sampling data from November/December 2016 sampling event

Highlands Acid Pit December 2016 Sampling Data

Semple ID	Sample Type	Date Collected	Units	Analyle	Analytical Method	LORP	Result	Data Qualifler	Sample Detection Limit	Method Quantitation Limit	Dilution Factor	Laboratory ID
#AP-DA91-120	N	11/28/2016	rtig. L	Total dissolved roleds	SM2540C	NS	328	***************************************	5.00	10.0	1	115[6]11331-01
HAP-DA01-120	N	11/28/2016	Big. L	Arsmit	SW-846 6020A	0.010	0.000520	. 1	0.000100	0.00560		HS16111331-01
HAP-DA61-120	N	11/29/2016	mg.L	Derium	SW-846 6000A	2.0	0.114		0.00190	0.00500	· ·	H\$16111331-01
HAP-DA01-120	N	11/28/2016	mg.).	Cachinini	5W-\$46 6020A	9.0050	<0.080200	U	0.000200	0.00200		HS16111331-01
HAP-DA01-120	S	11/28/2016	ny, L	Chrymium (texal)	SW-346 6020A	Ð. LO	<0.000100	U	0.000400	0,00500		H5[6][133]-0]
HAP-DA01-120	N	11/29/2016	ma t,	Lead	SW-846 6030A	0.015	<0.0000000	IJ	0.000500	6 00 500	1	HS[6111331-01
RAP-DA01-120	N	11/28/2016	mp. l.	Selentum	SW-\$46 6020A	0.050	0.00111	UH-CCB	0.00110	9.00500	i	11516111331-01
RAP-DA91-120	N	11/28/2016	ng L	Silver	5W-846-6020A	0,12	~0.660200	U	0.000260	0.00500	1	HS16111331-01
HAP-DA91-120	N .	11/28/2016	πyz, f.	Metony	SW-846 7476A	0.0076	< 0.0000300	t/	0 (6)00300	0 000260	1	HS16111331-01
HAP-DA91-126	N	11/28/2016	mg L	Mercury	5W-346 7470A	0.0020	< 0.0000300	£!	9 0000,100	0.000200	1	HS16111331-01
HAP-DA01-120	N	11/28/2016	нķЛ	Denzess	SW-346 8269C	0.0050	0.00036	,	0.60020	0.0010	ı	HS[6]11331-01
HAP-DA01-120	N	11/29/2016	ma 1.	Exhylbenzene	SW-846 8260C	0,70	-0.060.0	. U	0.00038	0.0010	1 .	HS16111331-01
HAP-DA01-120	Я	11/28/2016	ทนู.โ.	Tohune	SW-816 8260C	1.0	<0.00029	U	0.00020	0.0010	1	HS[6]11331-01
HAP-DA01-120	8	11/28/2016	ny.t.	Nytene (total)	287-819 8200C	16	<0.00038	Li	0.00030	0.6010	1	HS16111331-01
HAP-DA01-120	N	11/28/2016	ாஜ [.	m & p-Xyleux	5W-816 82600	10	-:0 00050	L!	0.00050	0.0020	1	11516111331-01
11AP-DA01-120	N	11/28/2016	me, t,	o-Xylone	SW-816 8260C	F0	<0.00030	i.	0.00030	60010	i	HS1611 [331-01
#AP-DA01-126	S	11/28/2016	mg/L	l'heroit	SW-\$16 8270D	7.3	0.000035	ŧ,	0.000035	0.00920	i	HS16[11331-01
HAP-DA#14120	- 8	11/28/2016	mg t.	lytidine	SW-816 8270D	0.024	<0.000030	U	0.600030	0,0018	-	HS16111331-01
HAP-DA01-120	8	11/28/2016	πεzt.	Staffare	SW-846 9056A	NS	3.54		0 200	0.500		JIS[61] 1331-01
HAP-DA02-120	8	11/29/2016	mg L	Total desolved solids	SM2510C	NS	402		3.00	10.0		HS16H1331-06
HAP-DA02-120	8	11/29/2016	mg.1.	Arsenic	SW-816 6030A	610.0	0.00247)	0.090109	0.00500	- i 	HS16111331-66
HAP-DA02-120	N	11/29/2016	met.	Banun	5W-816 60 20A	2.0	0.0412		0.00150	9 (8) 500		HS16111331-06
HAP-DA02-120	N	11/29/2016	me L	Сминии	SW-846 6030A	0.0056	-0.001200	t.	0.000200	0.00208		HS16111331-06
HAP-DA02-120	N	11/29/2016	ng:L	Chromann (total)	SW-846 6029A	0.18	-0.000400	U	0.000100	0.00500		HS16111331-06
HAP-DA92-120		11/29/2016	1921.	i.es.l	SW-346 6020A	9613	<0.0000.00	U	0.000600	0.99500	i	HS16111301-06
HAP-DA62-120	×	11/29/2016	my, L	Seleraum	SW-846 6020A	0.050	<0.00110	U	0.00110	0.60500		HS(6111331-06
HAP-DA92-120	N	11/29 2616	mg.L	Silver	SW-846 6030A	0.12	<0.000200	L/	0.000200	0.00500	- i - l	HS16111331-66
HAP-DA02-120	8	11/29/2016	πę. L	Meterary	SW-846 7470A	0.0020	- 8 0000 300	Li	0.0000300	0.000200	 i 1	HS16111301-06
HAP-DA02-120	N .	11/29/2016	ne L	Mercury	SW-816 7170A	0,0020	<0.00000300	U	0.0000360	0.099260	- i - 1	H516H1331-06
HAP-DA02-120	N	11/29/2016	mg·l.	Benzene	SW-816 8260C	9.0050	<0.00028	L/	0.00020	0.0010		HS16111301-06
HAP-DA02-120	N N	11/29/2016	ng L	Ethylbenzene	5W-316 8 2600	0.70	<0.00030	Ţ,	0.00030	0 (0)10	-i	HS16111331-06
HAP-DA02-120	N	11/29/2016	tree, L.	Tobsene	SW-816 B269C	1.0	<0.00020	U	0.00000	0.0010		HS16111331-06
11AP-DA02-120	N	11/29/2016	ne l.	Notice (total)	SW-816 8260C	10	0.00065	1	0.00030	6.0010	- ; -	RS16111331-96
HAP-DA92-120	N	11/29/2016	me t	m & p-Xyfene	SW-816 82/00	10	0.00065	<u> </u>	0.00050	0.0020		HS(61113)1-06
HAP-DA02-120	N I	11/29/2016	me/L	u-Xstene	SW-846 8360C	10	<0.(x)(30	ŧ)	0.00030	0.0010	- i 	HS16111331-06
HAP-DA02-129	N	11/29/2016	mz, 1,	Phenel	SW-816 8270D	7.3	0.0000-01	j	0.000035	0.00920		HS16111301-06
HAP-DA02-120	N:	11/29/2016	ing L	Pyridine	SW-816 8270D	0.024	0.000068	,	0.000036	0.0010	- 1	HS16111331-06
HAP-DA02-120	N	11/29/3016	nig.L	Sultar	SW-816 9056A	NS	103	·	0 200	Ð.500	- 	H516111331-06
HAP-DA05-120	S	11/29/2016	ma L	Total dessolved solids	SM2540C	NS	212		5.00	10.0		HS16111331-01
HAP-DA05-120	N	11/29/2016	ng L	Arsenie	5W-846 6020A	0.610	0.0012		8.000100	0.00500		HS16111331-01
HAP-DA05-120	N	11/29/2016	me/t.	Ratium	SW-816 6039A	2.0	0.0834	· · · · · ·	0.00190	0.00500		HS16111331-04
(AP-DA05-120)		11/29/2016	ma L	Cadmium	SW-846 6020A	0,0050	-0.000200	11	0.000200	0.00500		HS16111331-01
HAP-DA95-120	N	11/29/2016	rree L	Claretrajum (tetal)	SW-846 6929A	0.10	0.00123		0.000,00	0.00200		HS16111331-01
TAP-DA03-120	N	11/29/2016	Mgt. L	Leus.	SW-846 6030A	0.015	0.00102		0.00100	0.00500		HS16111331-01

Highlands Acid PR December 2016 Sampling Data

\$ 45 ES ES	Samole	Dale			Analytical				Sample Detection	Rethod Quantitation	Oitution	
Sample ID	Type	Collected	Units	Analyle	Method	LORP	Result	Date Qualifier	Limit	Limit	Factor	Laboratory ID
HAP-DA05-120	N	11/29/2016	mg I.	Scientari	5W-846 6020A	0.050	<0.00110	U	0.00110	0.00500	1	11516111331-04
HAP-DA05-120	N	11/29/2016	mg/L	Selver	SW-846 6020A	0.12	· 0.860200	i)	0.000260	0.00500		HS16111331-04
HAP-DA#5-120	N	11/29/2016	mal,	Mercury	SW-846 7470A	0.0020	< 0.0000300	£r .	0.0000300	0.000200	i	HS16111331-04
HAP-DA95-120	N	11/29/2916	my. L	Mercury	5W-846 7470A	8,0020	< 0.0000300	Ū	0.0000300	0.000200	 	HS[6111331-04
HAP-DA05-120	N	11/29/2016	ray L	Barzene	SW-846 8260C	0.0056	0.00033	3	0.00020	0.0010	- 1	H516111331-01
RAP-DA05-170	Х	11/29/2016	me L	Ethylkenzene	5W-846 82600	0.70	< 0.00030	U	0.00030	ocoto	<u> </u>	HS[6]11331-01
HAP-DA03-126	N	11/29/2016	mę, i.	Tidisens	5W-346 8 366C	1.0	<0.000020	U	0.00020	01000	1	HS[6]1[33]-04
HAP-DA95-120	N	11/29/2016	mg/L	Nylene (total)	SW-846 8269C	10	<0.00030	t)	8.00030	9.0010	1	HS16111331-04
HAP-DA03-120	N	11/29/2016	tng i	m & p-Xylene	SW-816 8260C	10	<0.00030	ľ	0 00050	0.0020		HS16111331-94
HAP-DA05-120	N	11/29/2016	arg. 1.	o-Xylene	5W-846 8260C	10	<0.00030	LJ.	0.00030	0.0010	i	HS16111331-04
HAP-DA05-120	N	11/29/2016	me 1.	Phened	SW-816 8270D	7.1	<0.000036	U	0.000036	0.00920		HS16111331-01
HAP-DA95-120	×	11/29/2016	mal.	Pyridine	SW-816 8276D	0.02t	<0.000031	1)	0.660031	0.0010		HS16111331-91
HAP-DA05-120	N .	11/29/2016	ng L	Solfat	SW-816 9056A	NS	18.7		0.200	0.500		HS16H1331-04
HAP-DA96-120	N .	11/29/2016	mg/t.	Total threelynt solids	5M2540C	88	342		560	100		H516111331-03
BAP-DA06-120	N	11/29/2016	mg.L	Arsenic	SW-\$16 6020A	0.010	0.00943		0.000100	0.00500	1	HS16111331-03
HAP-DA06-120	N	11/29/2016	itez î.	Danum	SW-346 6020A	2.0	0.0790		0.00190	0.00500	i	HS16111331-03
HAP-DA96-120	×	11/29/2016	mg/L	Carltonans	SW-810 6020A	0,0056	~0.600200		0.000260	0.00200	1	HS16[11]31-03
HAP-DA06-120	N	11/29/2014	mg/l.	Chromauni (total)	SW-846 6020A	0,10	<0.000100	Į.	0.600400	0.00500	<u> </u>	HS16111331-03
HAP-DA06-120	N	11/29/2016	m2,1.	Lead	SW-846 6030A	0.015	<0.000600	Ŭ.	0.0006(0)	0.99500	i	H516111331-93
HAP-DA96-120	N	11/29/2016	mg/L	Scleratori	SW-346 6030A	0.050	<0.02110	Ų.	0.00110	0.00500		HS16111331-03
HAP-DA96-120	N :	11/29/2016	mal.	Salver	SW-846 6020A	0.12	<0.060200	IJ	0.600200	0.00500		HS16111331-03
HAP-DA06-120	8	11/29/2016	ma.i.	Mercury	SW-346 7470A	0 0020	<0.0000388	(I	0.0000300	0.000200	<u> </u>	11516111331-03
HAP-DA96-120	N	11/29/2016	mg/L	Mercusy	SW-816 7179A	0.0026	<0.00000300	Ü.	9.0000360	0.060200	- i - l	HS[6][133]-93
HAP-DA06-129	N	11/29/2016	mg/l.	Dauzene	SW-846 8269C	0.0056	0.012		0.00020	0.0610	- i - l	HS16111331-03
HAP-DA06-128	N	11/29/2016	ing I.	Erlsylbenzena	SW-846 8360C	0.70	<0.00030	U	6.00030	6 (9)10	i	HS16111331-03
HAP-DA96-120	N	11/29/2016	ny.1.	Trimene	SW-846 8360C	1.0	<0.00020	l!	0.00020	0.0010	i	HS16111331-93
RAP-DA06-120	N	11/29/2016	mg/L	Xylene (total)	SW-846 8260C	10	0,0021		0.00030	0.0010	<u> </u>	11316111331-03
HAP DA96-120	S	11:29/3016	me L	m & p-Xylene	SW-846 8260C	10	0.0021	*	0.00050	0.0020	<u> </u>	HS16111331-63
HAP-DA96-120		11/29/2016	ng:L	o-Xylene	5W-846 8260C	10	<0.0 pre030	i)	0.00030	0.0016		HS16111331-03
HAP-DA06-120	N	11/29/2016	nız L	Phenol	SW-316 3270D	7.3	<0.000035	U	0.000035	0.00020	1	11516111331-03
HAP-DA06-120	- 8	11/29/2016	me t.	Pyridine	SW-816 8270D	0.024	< 0.0000030	()	0.000030	0 (0) (0	- 1	HS16111331-03
HAP-DA96-120	N	11/29/2016	mg/L	Sulfate	SW-846 9056A	85	179		0.200	0.500		HS16111331-03
HAP-DA08-120	N	11/28/2016	π γ.1.	Fotal dissolved solids	\$\$12540C	NS	552		5.60	top		HS16111331-02
HAP-DA08-120	N	11/28/2016	ng L	Arsenic	SW-846 6020A	060	0.00107	}	0.000100	0.00560		HS16111331-02
HAP-DA98-120	X	11/28/2016	1112/L	Barium	SW-346 6020A	2.0	0,0878		0.06190	0.60500		HS14111301-02
RAP-DA08-120	N	11/28/2016	mg/L	Cadmium	SW-846 6020A	0.0050	<0.000200	IJ	0.000200	0.00200		HS16111331-02
HAP-DA08-120	N	11/28/2016	mg/L	Chromatan (total)	SW-846 6020A	0.10	0.000784	7	0.000100	0.00500	- i 	H516111331-02
HAP-DA/8-120	N	11/28/2016	my.L	Lead	SW-846 6020A	0.015	-0.009000	13	0.000660	0.99500		HS16111331-02
HAP-DA08-120	N	11/28/2916	mel.	Seletaum	SW-946 6020A	0.050	<0.00110	U	0.00110	0.00500	- i - l	HS16111331-02
HAP-DA08-120	8	11/28/2016	ng,L	Silver	SW-846 6030A	0.12	<0.000200	Į)	0.000200	9,(90500)		HS16H11301-02
HAP-DA98-120	N	11/28/2016	trezit.	Metusy	SW-816 7470A	0.0020	<0.0040300	IJ	0.0000366	0.000200		HS16111331-02
HAP-DA08-120	8	11/28/2016	me/L	Mercury	SW-846 7479A	9.0020	<0.0000300	U	0.0000300	0.000200	- 	HS16H1133H-02
HAP-DA09-176	N	11/08/2016	πę.1.	Renzene	SW-846 82/0C	0.0050	0.00039	}	0.00030	9,0010	- i 1	HS16H11331-02
HAP-DA08-120	N	11/28/2016	ng/L	Ethyllenzera	5W-\$16 8260C	6 Ti	<0.00030	13	0.00030	9.6010		HS16111331-02

Highlands Acid Pit December 2016 Sampling Data

	Sample	Date Collected	Unita	Analyte	Analytical Method	LORP	Result	Date Quelifler	Sample Detection Limit	Mothod Quantitation Limit	Dilution Factor	Laboratory ID
Sample ID HAP-DA08-120	Туре	11/28/2016	mg.1.	Toliene	SW-346 8260C	10	<0.00020	El	0.00020	0.0016	1	HS16111331-02
HAP-DA08-120	N S	11/28/2016	me t.	Xylene (tetal)	5W-846 8260C	10	<0.00030	b b	0.00030	0.0010	-	H516111331-02
HAP-DA98-120	N	11/28/2016	enz/L	m & p-Xylene	SW-846 8260C	10	<0.00030	Ü	0.00050	0.0020		HS[61]1331-02
HAP-DA08-120	N N	11/28/2016	mz1.	o-Xylene	SW-846 8260C	10	50 00030	ti .	0.00030	0.0010	- i -	HS16111331-02
HAP-DA08-120	N N	11/28/2016	met.	Phend	SW-\$16 8270D	7.3	-0.000035	ŭ	6.000635	0.00020	<u> </u>	HSI6111331-02
79.10		11/23/2016	mg.l.	Pyridine	SW-816 8270D	0.031	<0.000030	II.	0.000030	0.0010	-	HS16111331-02
HAP-DA98-120 HAP-DA98-120	N N	11/28/2016	me.t.	Sulfate	SW-846 9056A	NS	534		0.200	9.590	 	11516111331-02
HAP-MA02-120	- A	11/30/2016	net.	Total theselved solids	SM2546C	. 85	90		5 00	10 0	1	HS16126073-06
HAP-MA02-120	N N	11/30/2016	mg/L	Arsenic	SW-846 6029A	0.010	0.00192	1	0.000100	0.00500	-	HS16120073-06
	N N	11/30/2016	mg/L	Danum	5W-846-6020A	2.0	0.0511	· · · · · · · · · · · · · · · · · · ·	0.60150	0.00500	- i	HS16120073-66
HAP-MA02-120	N N	11/39/2016	me t.	Cadmian	SW-846 6023A	0.0056	<0.000209	. V	0.000260	0.00200	<u> </u>	HS16129973-06
HAP-MA02-120	N N	11/30/2016	me t.	Chronium (total)	SW-846 6030A	0.10	0.00160	1	0.000100	0.00500		HS16120073-66
HAP-MA02-120				Lead	5W-846-6020A	0.015	0.000202	j	0.000000	0.00560	 	HS14120073-06
HAP-MA02-120	N N	11/30/2016 11/30/2016	mu.L	Seleratori	SW-816 6030A	0.015	-0.00110	li li	0.00110	9.00300	 	HS16120073-06
HAP-MA02-129	_	11/30/2016	ng L	Silver	5W-846 6020A	0.12	-0.000200	L!	0.000200	0.00500		HS16120073-06
HAP-MA02-120	N N	11/30/2016	met.L	Merciny	SW-846 7470A	0.0020	<0.000200	U	0.0000300	0.00000		HS16120073-06
HAP-MA02-120	- N	11/30/2016	ng L	Merciay	SW-S16 7170A	0.0020 0.0020	- 0.0000300	U U	0.0000390	0.000200		HS16120073-06
HAP-MA02-129	N	11/30/2016		Baixans	SW-846 8260C	0.0050	+0.00020	В	0.00020	0,0010		HS16120073-06
HAP-MA02-120		11/30/2016	mz.1.	Envilonment	SW-816 8260C	6.70	<0.000030	Lí	0.00030	0.0010		HS16120073-06
HAP-MA92-129	- N	11/30/2016	me.l.	Trivere	SW-846 8260C	10	0.000030	i .	8.00920	0.0010		11516120673-06
HAP-MA02-120	N	11/30/2016	mg/L	Xviene (total)	SW-846 8260C	10	<0.00036	i i	0.00030	0.0010		11516120073-06
HAP-MA02-120	N N	11/30/2016	mg.l.	in & p-Nyfene	SW-846 8360C	10	<0.00036	. U	0.00050	0.0020	i -	HS16120973-06
		11/39/2016	ng L	p-Xvlene	SW-846 8369C	10	<0 00030	D D	0.00030	0.0018	i	HS16120073-06
HAP-MA02-120	N N	11/39/2016	ng L	Phenol	SW-316 8270D	7.3	<0.000035	UJLMS-SD	0.000033	0.00020	 	11516120073-06
HAP-MA62-120	- N	11/39/2016	ng L	Pyridine	SW-316 8270D	0.024	<0.0000030	UIL-MS/SD	8 000030	0.0016	1	HS16120073-06
HAP-MA02-120		11/30/2016		States	SW-846 9956A	N5	4 39	UHRB	0.200	0.500		HS16120073-06
RAPATA02-120 HAPATA03-123	<u> </u>	11/36/2016	ng L ng L	Total threedynd patids	5M2540C	NS	276	CHAND	5.00	10.0	- '	HS16120073-05
	N N	11/30/2016	ngt.	Arsenic	SW-346 6020A	0.010	0.0104		0.000160	0.005(0)	 	HS16120073-05
HAP-MA03-123	N N	11/30/2016	ng.c.	Barren	SW-846 6020A	2.0	0.0864		0.00190	0.00500	- 	HS16129073-05
HAP-MA03-123	8	11/30/2016	mz L	Cadminn	SW-816 6039A	0.0050	0.000200	U	0.000200	0.00200	- i -	1(516)20073-05
HAP-MA03-123		11/30/2016	met.	Chronenan (total)	SW-346 60/20A	0.10	×0.000100	U U	0.000100	0.00500		HS16120073-03
HAP-MA93-123				(.mycauzu(ccan)	SW-846 6039A	0.015	0.000609	Ĭ,	0.600/600	0.00500		HS16120073-05
HAP-MA03-123 HAP-MA03-123	N N	11/30/2016	ng/L	Seletation	SW-\$16 6020A	0.050	-2) 00110	Ü	0.00110	0.00500		HS14120073-05
HAP-MA03-123	8	11/30/2016	meg L	Survi	SW-816 6020A	0.12	<0.000200	ŭ	0.000200	0.00500	 	HS16120073-05
	- S	11/30/2016	nect.	Mercury	SW-816 7170A	0.0020	-0.000300	11	0.0000360	0.090200	 	HS16129073-05
HAP-MA03-123	N N	11/30/2016	mail.	Mercury	SW-816 7470A	0.0026	< 0.0000300	U	0.0000300	0.000200	- i -	HS16120073-05
HAP-MA03-123				Benzene	SW-916 8260C	0.0030	0.0079		0.00020	0.0010	- i	HS16120073-65
HAP-MA93-123	- 8	11/30/2016	ng L	Ethiltenzar	5W-346 8260C	9.70	<0.00038	l!	0.00030	0.0010		HS16120073-03
HAP-MA83-123	N N	11/30/2016	mg/L	Tohene	SW-916 8260C	1.0	+:0.00028	U U	0.00030	0.0010	 	HS16120073-03
HAP-MA03-123		11/30/2016	ng L	Xylene (total)	2A-316 8200C	10	<0.00030	i i	6,00030	0.0010	 	HS16120073-63
HAP-MA03-123	N				SW-816 8360C	10	0.00030	t:	6.00950	0.0074	 	HS16120073-05
HAP-MA03-123	- 8	11/30/2016	ng.L	m & p-Xylene o-Xylene	SW-816 8200C	10	s:0.00030	Li Li	6.00030	0.0010	 	HS16120073-05
HAP-MA03-123	S	11/30/2016	mx/L		SW-816 8270D	73	-8 000035	DJL-MS/SD	0.000033	0.0010	1 1	HS16120073-05
HAP-MA03-123 HAP-MA03-123	N N	11/39/2016	net.	Phenot Pyridase	5W-816 8270D	9024	0.0013	IL-SUR-MS SD	9 000033	0.0000		HSI6120073-05

Highlands Acid Pit December 2016 Sampling Data

Telepate de la constante de la	100000000000000000000000000000000000000		ladsida sees		1888888888888	Antonomo Prodic	. Homosoposio		Sample	Method	aned seed to depart	White the second Arthur constraint
	Sample	Date			Analytical				Detection	Quantitation	Dilution	
Sample ID	Туре	Collected	Units	Analyte	Method	LORP	Result	Data Qualiflor	Limit	Limit	Factor	Laboratory ID
HAP-MA03-123	N	11/30/2016	mg,1.	Sulfate	SW-816 9056A	88	12.5		0.200	0.500	1	HS16120073-05
HAP-MA05-129	N	11/30/2016	nu.l.	Total absolved sobils	SM2540C	NS	318		5.00	160		HS16120073-02
HAP-MA05-120	N ·	11/30/2016	ma/L	Arsenic	SW-846 6020A	0.016	0.0210	JI-FD)	0.00000	10.00500	1	HS16120073-02
HAP-MA05-120	S	11/30/2016	truz T.	Валил	SW-\$46 6020A	2.0	0.130		0.03190	0.00500	i	H516120073-02
HAP-MA05-120	N	11/30/2016	toz l.	Calmin	SW-846 6020A	0.0058	<0.000200	t)	0.000260	0.00200		11516120073-02
HAP-MA95-120	N	11/30/2016	ing. i.	Chroneum (local)	SW-846 6020A	0.10	<0.000100	U	0.000100	0.00500	1	HS16120073-02
HAP-MA05-120	8	11/30/2016	ang L	Lexi	SW-846 6020A	6.015	-0,000606	ī.	0.600600	0.00500	<u> </u>	HS16120073-02
HAP-MA95-120	N	11/30/2016	яκ,1.	Seleman	SW-846 6020A	0.050	<0.63110	Ü	0.00110	0.00500	<u> </u>	H516120073-02
HAP-MA95-120	N	11/30/2916	ma.i.	Silver	SW-846 6020A	0.12	<0.000200	U	0.000200	0.00500		HS16120073-02
HAP-MA05-120	×	11/30/2016	ng L	Mercury	SW-846 7470A	0.0020	<0.0000386	Ų.	9.0000300	0.000200	- i	JISI6120073-02
HAP-MA05-120	N	11/39/2016	ing t.	Mercury	SW-846 7470A	9,8026	< 0.0000388	U	0.0000300	0.000200	-	HS16120073-02
HAP-MA05-120	N	11/30/2016	true L.	Beagme	SW-846 8260C	0.5050	<0.00020	U	0.00020	0.0010	1	HS16120073-02
HAP-MA05-120	N	11/39/2016	mzt.	Erlythenzene	SW-846 8260C	0.70	<0.00030	U	0.00630	6.0010		11516120973-02
HAP-MA95-120	N	11/30/2016	me L	Toluene	SW-946 8260C	1.0	<0.00920	l)	0.00020	0.0018		HS16120973-02
HAP-MA05-120	8	11/30/2016	eng L	Xylene (tetal)	SW-846 8260C	10	<0.00030	U	0.00030	0.0010		HS16120073-02
HAP-MA05-120	×	11/30/2016	mg L	m & p-Xylene	SW-846 8260C	10	<0.00050	Lí	0.00050	0.0020		HS16120073-02
HAP-MA93-120	N	11/30/2016	mg L	o-Xylene	SW-846 82660	10	<0.00030	U	0.00030	0.0010	- i -	HS16120073-02
HAP-MA03-120	N	11/30/2016	mg 1.	Phenet	SW-816 8270D	7.3	<0.000035	UJL-SUR-MS/SD	0.000035	0.00020		H\$161200?3-02
RAP-MA05-120	N	11/30/2016	tre, L	Pyndrie	5W-\$46 8270D	0.021	-0.000030	UJL MS/SD	0.000030	0.0010	· · · · · ·	HS16120073-02
HAP-MA05-120	2	11/30/2016	my 1.	Sulfute	SW-846 9056A	NS	8,59		0.200	0.500		HS16120073-02
HAP-MA05-121	FD	11/30/2016	my.l.	Total deserved solids	22/15/20C	NS	308		5,00	10 Đ	· i	HS16120073-03
HAP-MA05-121	rto	11/36/2016	m≱t.	Arsenic	SW-846 6030A	0016	0.0219	([4.1]	0.000100	0.00500	1	HS16120073-03
HAP-MA05-123	FT)	11/30/2016	n⊭ L	Bazium	SW-846 6020A	2.0	0,131		6.00190	0.00500	- i	HS16120073-03
HAP-MA05-121	D.	11/30/2016	πa t.	Cadmin	SW-346 6020A	0.0050	-0.060200	U	0.000200	0.00200	i	HS16120073-03
HAP-MA03-12E	FD	11/39/2016	#¥.℃	Chromeon (total)	SW-846 6020A	0.10	-0.000400	L)	0.9490100	0.00500	1	HS16120073-03
HAP-MA05-121	FD	11/30/3016	tng/L	Lead	SW-846 6020A	0.015	0,000816	,	0.000600	6,69500	i	HSI6120073-01
HAP-MA05-121	FD:	H/30/2016	mg.L	Scientuu	SW-846 6020A	0.050	< 0.00110	, U	0.00110	0.00500	-	RS16120073-03
HAP-MA05-121	FII	11/39/2016	mg I.	Silver	SW-\$16 6020A	6.12	-0.000200	Ų,	0.900200	9,00500	1	HS16120073-03
HAP-MA05-121	F1)	11/30/2016	me L	Mercury	SW-916 7170A	0.0020	- 0.0040380	l!	0.0000300	0.000200		HS16120073-03
BAPAIA05-121	FT)	11/30/2016	mg. L.	Mercury	SW-816 7478A	0.8020	<0.0000300	U	0.0030360	0.000260	1	H516120073-03
HAP-MA05-121	Ð	11/30/2016	me t.	Banzene	SW-846 83681	0.6050	₹0 fm026	(I	0.00020	0 00 0	1	HS16120073-03
HAP-MA05-121	FD)	11/39/2016	mg/L	Ethylkenzam	SW-846 8360C	9.70	< 0.090030	t)	0.00030	0.0010	1	HS16120073-03
HAP-MA05-121	Œ	11/30/2016	me L	Tolnene	SW-816 \$260C	10	+00.00020	·U	0.000020	0,0016	1	HS16120073-03
HAP-MA05-121	FTF	11/39/2016	mg L	Xylene (100al)	SW-346 82600	10	<0.000030	(i	0.00038	0.0016	1	HS16120073-03
HAP-MA05-121	11)	11/30/2016	ne/t.	m & p-Xylene	SW-846 8260C	10	<0.60050	ti	0.00056	0.0020	1	HS16120073-03
HAP-MA05-121	תו	11/30/2016	mg/L	c-Xylene	SW-316 3060C	10	< 9.00030	Ų	0.00030	0.0010	1	HS16120073-03
HAP-MA05-121	FD	11/39/2916	ny L	Phenol	SW-816 8270D	1.3	<0.000035	UIL-MS/SD	0.000035	\$ 000(<u>*</u> 10	1	HS16120073-03
HAP-MA95-121	H)	11/30/2016	ng/L	Pytidate	SW-\$16 8270D	0.021	0.000030	UJL-MS/SD	0.000030	6.6010		HS16120073-03
HAP-MA/15-121	תו	11:30/2016	ma:L	Sulfate	SW-816 9056A	NS	8.68		0.200	0.500	ı	11516120073-03
HAP-MA96-120	N	11/29/2016	в ж. L .	Terst dissolved solids	5M2509C	NS	366		5 00	100		HS16(200)73-01
HAP-MA96-129	Х	11/29/2016	tr#/L	Arseniç	SW-846 6020A	0.040	0,00983		0.000400	0.00500		11516120073-01
HAP-MA06-120	N	11/29/2016	πış/L	Barium .	SW-846 6020A	2.0	0.0894		0.00190	0.00500	i	H516120073-01
HAP-MA96-129	N	11/29/2016	prop. L	Castratan	SW-846 6020A	0 (050	49 090260	Į.j	0.000200	0.00200	1	HS16120073-01
HAP-MA06-129	8	11/29/2016	tng/L	Chrinium (tetal)	SW-846 6020A	6.10	e01600,02	tı	0.000160	0.00500	1	HS16120073-01

Highlands Acid Pit December 2016 Sampling Data

Semple ID	Sample Type	Date Collected	Units	Analyte	Analytical Method	LORP	Result	Data Qualifier	Sample Detection Limit	Method Quantitation Limit	Dilution Factor	Laboratory ID
IAP-MA06-120	N N	11/29/3016	me 1.	Lead	SW-846 6020A	0.015	-0.000600	L/	0.000600	0.00500	1	HS[6120073-01
1AP-MA06-120	8	11/29/2016	BIG.L.	Schereum	SW-346 6030A	0.050	0.00110	ŧJ	0.00110	0.00500	1	HS16129073-01
[AP-MA96-120	N N	11/29/2016	truz I.	Silver	SW-846 6020A	0.12	<0.000200	U	0.600200	0.00500		HSt6120073-01
IAP-MA06-120	N	11/29/2016	1102.1.	Mercury	SW-846 7470A	0.0020	<0.0000380	U	0.0030300	D.080200	1	1[5[612007,1-0]
HAP-MA96-120		11/29/2016	ng L	Mercury	SW-816 7170A	0.0020	<0.0000300	11	0.0000000	0.099200		HS16120073-01
IAP-MA96-120	N	11/29/2016	mg/L	Benzene	SW-316 8260C	0.0050	0.0034		0.00020	01000	1	HS16120073-01
IAP-MA06-120	N N	11/29/2016	mg l.	Ethyltestare	SW-346 8260C	0.70	-0.00039	¥f .	0.68930	0.0010	1	HS16120073-01
(AP-MA96-12)	N	11/29/2016	ny.L	Tohor	SW-316 8390C	1.0	<0.00026	D	0.00020	0.0010		HS16129073-01
IAP-MA96-120	N	11/29/2016	mal.	Xvlene (total)	SW-846 8260C	10	0.0024		0.00030	0.0010	1	HS16120073-01
IAP-MA06-120	N	11/29/2016	mal.	m & p-Xylene	5W-846 8260C	10	0.0024		0.09050	0.6620	1	HS16120073-01
LAP-MA06-120	N	11/29/2016	ng.1.	e-Xviene	SW-846 8260C	10	<0.00030	:10	0.00030	0.9910	i	10516120073-01
TAP-MA06-120	N	11/29/2016	ma 1.	Phend	SW-816 8270D	7.3	<0.000036	UJL-MS-SD	9.000036	9.00020		HS16120073-01
LAP-MA96-120	N N	11/29/2016	my.1.	Pyrodae	SW-316 8270D	0.021	0.0017	JL-MS-SD	0.000031	0.9910	i i	10516120073-01
LAP-MA06-120	N N	11/29/2016	ng L	Solfate	SW-846 9056A	NS	15.7	77 (33 -31	0.200	0.500		11816120073-01
IAP-MA97-123	N N	11/29/2016	ma.1.	Total threelval solids	SM2546C	NS	344		5.00	10.0		HS16111331-08
TAP-MA97-123	N	11/29/2016	nga l.	Arsenic	SW-846 6620A	0.010	0.00567		0.000100	0.00500		11516111331-68
LAP-MA07-123		11/29/2016	ng.t	Barreni	SW-546 6920A	20	0.119		0.00190	0.00500	i	HS16111331-08
IAP-MA07-123	8	11/29/2016	ma/l.	Cadmiun	SW-846 6020A	0.0350	<0.000200	£!	0.000200	0.00200		HS16111331-08
IAP-MA07-123	- 2	11/29/2016	mg.l.	Chronutus (total)	SW-846 6020A	0.10	-0.600100	<u>i</u>	6.0001(a)	0.06500	i	1181611133148
AP-MA07-123	N	11/29/2016	nig L	i.ead	SW-346 6920A	0.015	-0.000600	l)	0.000600	0.00500		HS16111331-08
LAP-MA97-123	N	11/29/2016	me 1.	Selemian	SW-846 6020A	0.050	<0.00110	U	0.00110	0.00500	1	HS16111331-09
IAP-MA07-123	8	11/29/2016	mg.1,	Suver	SW-846 6020A	0.12	- 0.000200	Ü	0.990200	0.06500		HS16111331-08
IAP-MA07-123	N N	11/29/2016	mg/L	Merciny	SW-846 7470A	0.0020	<0.0000366	Ù.	0.9000300	0.000200		11516111331-08
[AP-MA07-12]	N	11/29/2016	mg/1.	Merciny	SW-846 7470A	0.0020	<0.0000300	Ü	0.0000300	0.000200		11814111331-08
IAP-MA97-121	- N	11/29/2016	ngol	Benzene	SW-\$46 8260C	0.0050	<0.00020	Ü	0.00020	0.0010		HS16111331-08
IAP-MA97-123	- 2	11/29/2016	mg.L	Ethilenene	5W-846 8260C	0.70	< 0.000830	. 13	0.00030	0.0010	i i	HS[6]11331-08
IAP-MA07-123	Х	11/29/2016	mg/L	Tolpene	SW-816 8260C	1.0	<0.00020	U	0.00020	0.0018		HS16111331-08
IAP-MA97-123	8	11/29/2016	ngeL	Nyfene (total)	SW-346 8260C	10	0.60030	U	0.00030	0.0016		HS16111331-05
IAP-MA67-123	- :- S	11/29/2016	meL	m & p-Xylene	SW-816 8260C	10	0.00050	Įį	0.00059	0.0020		H\$16111331-08
1AP-MA67-123	N	11/29/2016	me.t.	o-Xvlena	SW-346 3260C	10	<0.00030	LI .	0.00030	0.0010	1	11516111331-08
AP-MA97-121	8	11/29/2016	ng.L	Phend	SW-\$16 8270D	7.3	0.000033	li li	0.000035	0,09020		11516111301-08
1AP-MA07-123	'	11/29/2016	nig.L	Pytidage	SW-816 8270D	0.024	0.000030	li li	0.000030	0.0010	1	HS16111331-08
[AP-MA07-123	N	11/29/2016	mg/L	Sulfate	SW-346 5056A	NS	R 40	· · · · · · · · · · · · · · · · · · ·	0.200	0.500		H5[6][133]-08
(AP-MA08-12)	- 3	11/39/2016	me l	Total dissolved solids	SM23196"	NS	1050		5.00	10.0	1	11316111331-03
TAP-MA08-120	N	11/29/2016	ne.r	Arsenic	SW-\$46 6020A	0.010	0.00619		D 000800	0.00500	i	11516111331-07
(AP-MA08-120	N	11/29/2016	ma:L	Barium	SW-\$46 6020A	26	0.065		0.00190	0.00500	 	HS16111331-07
(AP-MA08-120	N	11/29/2016	mg/L	Cadmenn	SW-846 6020A	0.0030	<0.000200	tī	0.000200	0,00209	1	H516111301-07
(AP-51A98-12)	8	11/29/2016	ng/L	Clarenaum (tetal)	SW-816 6029A	9,10	0.000779		0.000400	0.00500	ì	HS16111331-07
(AP-MA08-120	- <u>S</u>	11/29/2016	ne L	Lead	SW-846 6020A	0.015	0.000600	Ü	0.000600	0.00500	 	HS16111331-07
IAP-MA08-120	- 8	11/29/2016	ng.L	Seletaton	SW-846 6020A	0.050	50.00110	Ü	0.09110	0.00509	 	HS16111331-07
IAP-MA08-129	N N	11/29/2016	rect.	Silver	SW-\$16 6030A	0 12	0.000200	Ü	0.000200	0.00500	 	HS[6]][33]407
IAP-MA08-120	N	11/29/2016	mg/L	Merciary	SW-846 7470A	0.0026	< 0.0000300	Ū	0.0000300	0.000200	 	HS16111331-07
(AP-MA08-120	N N	11/29/2016	ng.L	Mercury	SW-846 7170A	0.0020	- 0.0000300	Ü	6.0000300	0.009200	 	HS16111331-07

Highlands Acid Pit December 2016 Sampling Data

Sample ID	Sample Type	Date Collected	Volta	Analyte	Analytical Method	LORP	Result	Data Qualifler	Sample Detection Limit	Nathod Quantitation Limit	Dilution Factor	Laboratory ID
HAP-MA08-120	N.	11/29/2016	ng.L	Etlathence	SW-\$16 8260C	6.76	-0 0000 Vi	ti	0.00030	0.0010		115(61)1331-07
HAP-MA08-120	N	11/29/2016	ng/L	Toluene	SW-846 8260C	1.0	0.00020	Ü	0,00029	0.0010	 	HS16111331-07
HAP-MA08-120	N	11/29/2016	tre/l.	Xylene (total)	SW-846 8260C	10	0.024		0.00030	0.0010	1	HSt6111331-07
HAP-MA08-120	N N	11/29/2016	mg.L	m & p-Xylene	SW-346 8260C	10	0.024		0.000050	0.0020	1	HS14111331-07
HAP-MA08-129	N N	11/29/2016	nu L	e-Xylene	SW-846 8260C	10	<0.00038	į,	0.00030	0100.0	1	11516111331-07
HAP-MA08-120	N N	11/29/2016	ma/L	f*hartast	SW-816 8270D	7.3	×6 600035	U	0.000035	0.00020	1	HS16111331-07
HAP-MA08-120	N N	11/29/2016	1127	Pyridine	SW-846 8270D	6021	<0.800030	Ĭ/	0.000030	0,6010		HS1611 (331-07
HAP-MA08-120	N	11/29/2016	me/L	Solfate	SW-846 9056A	N5	17.1	:	1.00	2.50	,	HS16111331-07
HAP-SD61-123	N	12/2/2016	WT%	Petvent moisture	ASTM D2216	NS	13.9		0.0100	0.0100	1	11516120124-05
HAP-SD01-123	N N	12/2/2916	ms.kg	Arsenic	SW-846 6020A	24	2.25		0110	0,531	1	11\$16120124-05
HAP-SD91-123	N N	12/2/2016	me ke	Barren	5W-846 6020A	8105	45.4		0.0350	0.531	1	11516120124-05
HAP-SD01-123	N	12/2/2016	meke	Cadmina	SW-846 6020A	51	<0.053	U	0.0530	0.531	1	HS16120124-05
HAP-SD01-123	×	12/2/2016	mete	Chromanna (total)	SW-846 6620A	27000	5.96		9,0%0	0,531		f1S16120124-03
HAP-SD91-121	N N	12/2/2016	meka	Lead	SW-846 6020A	500	7.07		0.0530	0.531	1	11516120124-05
HAP-SD01-123	N	12/2/2016	me kg	Seletánou	SW-846 6020A	310	6388	,	0.150	0.531	1	H\$16120124-05
HAP-SD01-123	N N	12/2/2016	maka	Silver	SW-946 6020A	97	<0.085	U	0.0850	0.531	1	HS16120124-05
HAP-SD01-123	N N	12/2/2016	mg/kg	Mercury	SW-816 7471A	21	0.0112		0.000590	0.00416	1	H516120121-05
HAP-SD01-123	N N	12/2/2016	meAe	Bentene	SW-316 8260C	69	CD 00046	U	0.00046	0 0046	1	11516120124-05
HAP-SD01-123	N N	12/2/2016	mg/kg	Ethylbenzene	SW-816 8260C	5306	<0.0064	U	9.00961	0.0046	1	HS[6120]24-05
HAP-SD01-121		12/2/2016	nie ka	Tolucie	5W-816 8260C	\$1(X)	CD 00035	U	0.00055	0.0014	1	HS16120124-05
HAP-SD01-123	8	12/2/2016	meke	Xylene (total)	SW-846 8260C	3700	+.0 60092	U	0.00092	0.0046	1	HS16120124-05
BAP-SD01-123	N N	12/2/2016	meks	m & p-Xylene	SW-316 8260C	4700	0.0013	IJ	0.0015	0.0092	1	HS16120124-05
HAP-SD01-123	N	12/2/2016	meka	o-Xviene	5W-846 8260C	29(108)	<0.0092	ŧ)	0.00092	0.9846	1	11516120121-05
HAP-SD01-123	N N	12/2/2016	mu/ke	Phenol	SW-816 8270D	950	:00013	[j	0.0013	0.0077	1	1(516120124-05
HAP-SD01-123	8	12/2/2016	mg.kg	Pyridue	SW-816 82701)	82	-9 00 15	Į:	0.0010	0.0077	1	HS[6120124-05
HAP-5D02-120	×	12/2/2016	WT%	Регсем пожине	ASTM D2216	NS	18.6		0.0100	0.0100	1	1(5)6120124-06
(LAP-SD02-120)	N N	12/2/2016	m=ke	Arsenic	SW-846 6020A	24	1.98	JI-FD	0 120	0.587	1	H516120124-06
HAP-SD02-120	N N	12/2/2016	meke	Darium	SW-846 6020A	8100	124	11-37)	0.0940	0.537		11S[6120]24-06
HAP-SD02-120	× ×	12/2/2016	mg/kg	Catrium	SW-846 6020A	51	40.059	11	0.0590	0.587		HS16120124-06
HAP-5D02-120	N	12/2/2016	mg/ke	Chronium (total)	SW-846 6030A	27000	6.22		0.110	0.587	1	HS16120124-06
HAP-SD02-120	N N	12/2/2016	meke	Lead	SW-846 6020A	506	6.33		0.0590	0.587	1	11516120121-04
HAP-SD02-120	N	12/2/2016	HILL VE	Selegium	5W-816 6020A	311	0.493	1	0.210	0.587	1	11S16129121-06
HAP-SD02-120	8	12/2/2016	meke	Silver	SW-846 6020A	97	< 0.094	U	0.0940	0.587		HS16120124-06
HAP-SD02-120	N	12/2/2016	make	Merciary	SW-846 7471A	21	0.00632	3[-87)	0.600630	0.00111	1	13516120124-06
HAP-SD02-120		12/2/2016	mg/kg	Benzese	SW-846 82600	69	< 0.00030	L!	0.00030	0.0050	1	H\$14120124-06
HAP-SD02-120	N	12/2/2016	my kg	Ethylicszene	SW-816 \$260C	5300	< 0.000.0	U	0.00076	0.0050	1	H\$14120124-06
HAP-SD02-120	N	12/2/2016	meke	Toluzne	SW-816 8260C	3160	<0.00060	ŧ.	0,00000	0.0050	1	HS16120124-08
HAP-SD02-120	N N	12/2/2016	make	Xylene (total)	SW-816 8260C	3700	• D 0010	T)	0100	0.0050	1	HS16120124-06
HAP-SD02-120	X	12/2/2016	mg/kg	m & p-Xylene	5W-816 8260C	1700	-0.0016	U	0 0016	0.010		JIS16120124-06
HAP-SD02-129	8	12/2/2016	meks	o-Xylene	SW-816 8369C	29000	0100.0	15	0.0010	0.0050	1	11514120124-86
HAP-SD02-120	×	12/2/2016	mg-kg	Phenot	SW-816 8270D	950	+.0.0014	l)	0.0014	0.0031	l I	HS16120124496
HAP-SD02-120	N	12/2/2016	nie ke	Pyridiae	SW-846 827eD	82	100011	D .	0.0011	0.0081	1	J1516120124-06
HAP-SD02-121	HD.	12/2/2016	WT*	Percent moisture	ASTM D2216	NS	19.4		0.0100	0.0100	1	HS16120124-07
HAP-SD02-121	FD	12/2/2016	mz/ke	Arvenic	ACC03 518-WZ	21	1.28	31-37)	0 120	0.590	1	11516129124-07

Highlands Acid Pit December 2016 Sampling Data

							5000000	8888	5ample	Method		
	Sample	Date			Analytical				Detection	Quantitation	Dibilion	
Sample ID	Type	Collected	Units	Analyto	Method	LORP	Result	Data Qualifier	Limit	Limit	Factor	Laboratory ID
HAP-SD02-121	- FD	12/2/2016	mg kg	lanun	2M-840 0050Y	8 k(x)	36.5	H-FD	0.0940	0.590	1	HS16120124-07
HAP-5D02-121	TD:	12/2/2016	ing kg	Cashnian	ZW-846 6020A	51	-0.0590	U	0.0590	0.550	1	HS14120124-07
HAP-SD02-121	FU	12/2/2016	my kg	Chrymium (total)	SW-846 6020A	27000	413		0.110	1) 599	. 1	H\$16120124-07
HAP-SD02-121	FD.	12/2/2016	ing kg	l,ead	5W-346 6020A	500	2.49		0.0598	0.590	1	HS16126124-67
HAP-SD92-121	(1)	12/2/2016	meke	Selentum	SW-846 6920A	310	0.106	j	0.210	0.590	1	HS16120124-07
HAP-SD02-121	FD	12/2/2816	ያካይ kg	Silver	SW-845 6020A	97	+0 0940	Ŋ,	0.0910	0,590	ı	11516120124-07
HAP-SD02-121	13)	12/2/2016	nig kg	Mercury	SW-846 7471A	2.1	0.00889	33-\$1)	0.000620	0.00439	ŀ	HS16120121-07
HAP-5D02-121	10	12/2/2016	tng kg	Devene	SW-846 8260C	69	CD,0(4)648	u	81-010-0	0.0048		11516120124-07
HAP-SIX02-121	FD	12/2/2016	mg/kg	Ethylbentene	SW-846 8260C	53(8)	<0.00067	U	0.00067	0.0018	1 1	HS16120124-07
HAP-SU02-121	10	12/2/2016	ng kg	Totoene	SW-846 8260C	5100	<0.00057	IJ	0.00037	0 8918	1	HS16120124-07
HAP-SD02-121	n)	12/2/2016	mg/kg	Nytene (total)	SW-846 8260C	37(9)	(0.60096	·	0.000%	0.0013	1	11516120124-07
FLAP-5D02-121	Π)	12/2/2016	mg kg	m & p-Nylene	SW-816 8260C	4700	0.0015	U	0.0015	0.0096	1	HS16120124-07
HAP-SD02-121	FD	12/2/2016	ring Eg	o-Xylene	SW-846 3260C	29000	<0.00094	. \$1	0.00)096	0.0018	1	HS16129121-67
HAP-SD02-121	110	12/2/2016	mg/kg	Phensi	SW-846 8276D	550	-0.0014	tj .	0.0014	0.0632		HS16120124-07
HAP-SD02-121	FD	12/2/2016	THE K#	Pyrickne	SW-846 8270D	82	+.0.5011	t)	6.0011	0.0082	1	11516120124-07
HAP-SD03-126	N	12/2/2016	¥14.	Petcent moisture	ASTM D2216	88	17.7		0,0100	0 0100	1	11516120124-08
HAP-5D03-120	N	12/2/2016	mg kg	Arsenic	5W-846 6020A	2+	1.02		0110	.0.571		H5[6]20121-68
HAP-SE001-120	N	12/2/2016	mg kg	Далялы	3W-846 6020A	8100	17.4		0.0910	0.571	1	HS16120124-08
RAP-SD03-120	N	12/2/2016	ing kg	Cedmium	SW-846 6030A	- 51	<0.057	IJ.	0.0576	0.571	1	HS16120124-08
HAP-SD03-150	X	12/2/2016	mg/kg	Clarenaism (total)	5W-846 6030A	27068	2.92		0.100	0.571	1	HS16120[24-03
HAP-SD03-120	<u> </u>	13/3/2016	mgig	Lest	SW-846 6020A	5(1)()	4.53		0.0576	0.571	1	11516120124-08
HAP-SD03-120		12/2/2016	ing kg	Selenium	5W-346 6029A	310	<0.21	t)	0.210	0.571	1	HS16120124-68
HAP-SD03-120	N	12/2/2016	11½ kg	Sidver	SW-846 6020A	97	<0.091	U	0.0916	0.571	_	HS16120124-08
HAP-SD(3-120	N	12/2/2016	mg ke	Mercury	SW-816 7471A	2.1	0.00815		0.000616	0.00128	1	HS16120124-08
HAP-SD63-120	N	12/2/2016	rise, La	Daizaie	SW-816 8260C	69	<0.00011	lí .	11000.0	0.0041	1	#IS16120]24-68
HAP-5D03-129	N	12/2/2016	mg/kg	Ethyltetzere	SW-\$16 8269C	5300	<0.00057	. L!	0.00057	.0.0011	ı	11516120124-68
HAP-SD03-129	N.	12/2/2016	mg/kg	Tologne	SW-\$16 8260C	5100	<0.00049	, U	0.00019	0.0011	1	HS16120124-08
HAP-5D03-120	N	12/2/2016	mg tg	Xylene (total)	SW-346 8260C	3700	<0.00681	IJ	0.00081	0.0041	1	HS16120121-08
HAP-5D03-120	Ŋ	12/2/2016	rng kg	m & p-Xylene	SW-\$16 B2600	4700	*0.0013	1.1	0.0013	0.003 [1	HS16120[21-08
HAP-5D03-120	N	12/2/2016	true/k.c	o-Xviene	SW-346 \$260C	29000	<0.00081	. 0	0.00081	0.0011	_	HS16120124-08
HAP-SD03-120	N	12/2/2016	meke	Phenol	SW-816 8270E)	950	-:0.6013	T/	0.0013	0.0080	1	11516120121-09
HAP-SD03-120	- 3	12/2/2016	tog kg	Pytidine	SW-\$16 8276D	82	<0.0011	. 10	0.0014	0.0680	1	HS16120121-08
HAP-SW01-120	N	12/2/2016	tne l.	Arsenic	SW-946 6020A	0.010	0.00298		0.000460	0.00500		HS16120124-01
HAP-5W01-120	8	12/2/2016	HK L	Banum	SW-346 6030A	26	0.123		0.00150	9.00569	_	HS16120124-01
HAP-SW01-120	N	13/2/2016	mg.L	Cashnian	SW-846 6020A	0.0050	<0.000200	Į;	0.600200	0.00200	_	HS16120124-01
HAP-SW01-120	×	12/2/2016	ma L	Chromium (lotal)	SW-846 6020A	0.10	-9.000H00	្រ	0.000400	0,00500	_	#1516120124-01
IAP-SW01-120	- 8	122,2016	ing I.	l.es.i	28-240 00 71V	6013	-0.000606	Ļ!	0.000000	0.00500	1	HS16120124-01
IAP-5W01-120	N	12/2/2016	mg/l.	Schraunt	SW-346 6020A	0.059	0.001*4	,	000110	0.00500	ŀ	11516120124-01
IAP-SW01-120	N	13/2/2016	ma I.	Silver	A0209-012-W2	9.12	<0.000200	n,	0.000260	0.00500	1	HS16120124-01
tAP-5W61-120	N	12/2/2016	附上	Mercury	SW-816 7470A	0.0020	- 0.0000 Jus	Ţ.	0.00003000	0.000260	1	11516120124-01
tAP-SW01-120	N	12/2/2016	tre/L	Bentehe	SW-816.8300C	0,0050	<0.00020	1 J	0.00026	o votu	1	11516129124-01
IAP-SW01-120	Х	12/2/2014	me L	Ethylbenzeue	SW-846 \$260C	0.70	00.00030	U	0.00030	0.0010	1	HS16120124-01
IAP-5W01-120	8	12/2/2016	RÇ L	Toluene	SW-816 \$2600.	1.0	· 0.000_33	f†	0,00920	0.0010	ŧ	HS16120124-01
LAP-5W01-120	N	12/2/2016	π¢.L	Nylene (total)	5W-346 8260€	10	< 9.00038	\$/	0.00036	0.0010		J#S16120121-01

Highlands Acid Pit December 2016 Sampling Data

	Sample	Date	Units	Analyto	Analytical Method	LORP	Result	Data Qualifler	Sample Detection Limit	Method Quantitation Limit	Offution Factor	Laboratory ID
Sample ID	Type	Collected	Tippe - contact long		SW-346 8260C	10	<0.00050	t/	0.00050	0.0020	1	11516120124-01
HAP-5W01-120	N	12/2/2016	mg.l.	m & p-Xylene o-Xylene	5W-816 8260C	10	<0.00030	Ü	0.00030	0.0010	1	HS16120124-01
HAP-SW01-120	- 8	12/2/2016	102/1.	Phenol	SW-816 8270D	7.3	-0.000036	UILMS SO	0.000036	0,00020	1	HS16120124-01
HAP-5W01-120	N	12.2/2016	me/t.	Pyrodine	SW-\$16 82700	0.024	0.0000331	UR-MS/SD	0.000031	0,0010	,	HS16129124-01
HAP-SW01-120	N	12/2/2016	mg.T.	Arvante	SW-846 6020A	6.010	8,00313	1	0.000400	0,00500	-	11516129124-02
HAP-5W92-120	N	12/2/2016	nız/l.	Banusi	SW-816 6029A	2.0	0.125		0.00190	0.00500	1	HS16120124-02
HAP-SW02-120	N	12/2/2016	mg/l.	Cadaman	SW-846 6020A	0 (3050	#.000200	U	0.000200	9.00200	1	11516120124-02
HAP-SW02-120	8	12/2/2014	ng.l.	Chromium (total)	SW-946 6020A	0.10	- D B00100	Ü	0.000400	0.00500	1	HS16120124-02
HAP-SW02-120	N	12/2/2016	ng/l.	i.ead	SW-846 6020A	0.015	-0.000600	į.	0.000609	0 00500	1	11516120121-02
HAP-SW02-120	N	12/2/2016	mert,	Seletium Seletium	SW-846 6020A	0.050	0.00136	j	6 00116	0.00500	,	HS16120124-02
HAP-\$W02-120	×	12/2/2016	n&T.	Selenten	SW-846 6020A	0.12	\D.D00260	Ü	8.000200	0.60500	1	11516120124-02
HAP-5W02-120	N	12/2/2016	ng/L	Mercury	SW-846 7470A	8 0020	-0.0000000	U .	0.0000300	0.000260	1	H\$16120124-02
HAP-5W02-120	N	12/2/2016	ing 1.		SW-316 3260C	0.0010	<0.00020	u i	0.00020	0.0010	1	HS16120124-02
HAP-5W02-120		12/2/2014	mg.1.	Barrais	SW-816 8260C	0.70	<0.00030	Ü	0.00030	0.6010	1	145[6120124-02
HAP-5W02-120	N	12/2/2016	me/L	Ethylbenrana	SW-846 8260C	1.65	-0.00020	Ü	0.00020	0.0010	1	HSI6120124-02
HAP-SW02-120		12/2/2016	me L	Tolueno	SW-846 8260C	10	<8.00930	Ü	0.00030	0.0010	1	HS16120124-02
HAP-5W02-120		12/2/2016	mg/l.	Sylene (total)	SW-846 8260C	10	<0.00050	ŭ	0.00050	0.0020	1	HS16120124-02
HAP-5W02-120		12/2/2016	me i.	m & t-Xylene	SW-846 836/AC	10	<0.00030	 	0.00030	0.0010	1 1	11516120124-02
HAP-SW02-120		12/2/2016	mg/l.	o-Xylene	5W-316 8270D	73	×8.000035	UL-MS/SO	D 000035	0.00020	1	HS16120124-02
HAP-SW02-120		12/2/2016	ms.1.	Pletel	5W-516 8270D	0.024	0.00032	JL-MS/SD	0.000030	0.0010	 	HS16120124-02
HAP-SW02-120		12/2/2016	ung/L	Pythine		0.910	8,00330	71.551.751.7	0.00000	0.60500	1	HS16120124-03
HAP-SW02-121		12/2/2016	mg/L	Arsenic	SW-\$16 6020A	2.0	0.126	<u> </u>	0.00190	0.00500	 	11516120124-03
HAP-\$W02-121		12/2/2016	mg/l.	Banusu	SW-846 6620A	0.0050	<0.000200	L)	6 600260	0.60206	1	HS16120124-03
HAP-SW02-121		12/2/2016	ng.L	Cachinin	SW-846 6020A	0.10	-9 000400	l 	0.600400	0.00500	 	HS16120124-03
HAP-SW02-121		12/3/2016	.mg/1.	Chaomium (total)	SW-346 6020A	0.15	9.009614	 	0.000600	0.00500		11816120124-03
HAP-SW02-121		12/2/2016	10¢1.	Lead	SW-846 6020A	1	0.00144	 	0.00110	0.00500	 	HS16120124-03
HAP-SW02-121		12/2/2016	mg.L	Selemin	SW-816 6020A	0.650	-D.060200	 '	8.000200	0.90500	 	HS16120124-93
HAP-SW02-121		12/2/2016	ng L	Silves	SW-\$46 6030A	0.0029	-0.0009300		9.0000,000	0.000200	 	HS16120124-03
HAP-5W02-121		12/2/2016	ng L	Mercury	SW-846 7470A		<0.00020	Li Li	0.00020	0.6010	 	11516129124-03
HAP-\$W02-121		12/2/2016	mg.1.	Benzene	SW-346 8269C	0.0050	<0.00030	 	0.00030	0.5010	 	11516120124-03
HAP-5W02-121		12/2/2016	mg:L	Ethyllenzose	SW-516 \$260C	0,70	<0.00030	- U	0.00920	0.0010	1	HS16120124-03
HAP-5W02-121		12/2/2016	粉之上	Toluene	SW-846 8260C		<0.00030	l i	0.00030	0.0019	 	HS16120124-03
HAP-SW02-121		12/2/2016	mg.L	Xylene (total)	SW-846 8260C	10	<0.00030	i i	0.00050	0.0020	1 1	HS16120124-03
HAP-SW02-121	FD	12/2/2016	na 1.	m & p-Xylene	SW-816 8260C	10	<0.00030	1 1	0.00030	0.0020	1	HS16120124-03
HAP-5W02-12	m	13/2/2016	mg.L	e-Xylma	SW-816 82/90	10	~0.000036	ULMSSD	0.000036	0.60020	 	HS16120124-03
HAP-5W02-121	FD	12/2/2016	ng.L	Phetad	SW-316 8270D	7.3		JL-MS/SD	0.660931	0.0010	1 1	HS16120121-03
HAP+SW02-12	FD	13/2/2016	ng L	Pyridine	SW-816 8270D	0.921	0.00027	1F-252-20	0.00031	0.00500	 	HS16120124-01
HAP-SW03-13		12/2/2016	ng.L	Arsenic	SW-846 6020A	0010	0.00334	 	9.60199	0.09500	 	11516120124-04
HAP-SW03-12) N	12/3/2016	mg/L	Bestutu	SW-846 6030A	2.0	0.130	 ,,	6,000200	0.00200	+ +	HS16120124-04
HAP-SW03-13		12/2/2016	true 1.	Castminn	SW-\$46 6020A	0.0050	<0.000200	U	0.000200	0.00500	 	11516120124-01
[IAP-SW03-12) N	12/2/2016	ng L	Cisomian (tetal)	SW-846 @20A	0.19	0,000509	<u> </u>		6,60560	+	HS16120124-04
HAP-5W03-12) N	12/2/2016	ng/L	l.cad	SW-846-6020A	0015	*-0.000610	ti .	0.001(0	0,60500	┤ ╌	HS16120124-04
HAP+5W03-13) N	12/2/2016	mg/L	Selemuni	SW-846 6020A	0.059	0.00197	ļ	0.00010	0.00500	 	HS16120124-01
HAP-5W03-13	5 N	12/2/2016	me, L	Salver	SW-846 6020A	0.12	<0.000209				 	HS16120124-04
17 to \$117.7 13		12/2/2016	Electric Transport	Mercury	1 SW-846 7470A	0.0020	- 0.6000301	0 1/	6.00000300	0.000,500	1 1	11210173154-04

Highlands Acid Pit December 2016 Sampling Data

	Sample	Date			Analytical				Sample	Melliod		
Sample (D	Туре	Collected	Unite	Analyte	Method	LORP	Result	Data Qualiflor	Detection Limit	Quantitation	Dilution	
HAP-SW0J-120	N	12/2/2016	mg L	Benzene	SW-846 8260C	0.0050	<0.00020	Cata Cosmics	0.00020	Limit	Factor	Laboratory ID
HAP-SW03-120	N	12/2/2016	mg.i.	Eth ibentese	SW-816 8260C	6.70	<0.00030	1	0.00030	0.0010	.[H\$16120124-04
HAP-5W03-170	N	12/2/2016	eng/1.	Toltiene	SW-846 8260C	10	<0.00020	0		0.0010	1	HS16120124-01
HAP-5W03-120	×	12/2/2016	mg.1.	Xylone (total)	SW-346 8260C	10	<0.00030	u u	0.00020	0.0010		BS16120124-04
HAP-5W62-120	N	12/3/2016	Hug. L.	m & p-Xylene	5W-816 8260C	10	<10 (x)(55)	<u> </u>	0.00030	6.0016		HS[6]20]24-04
HAP-SW03-120	N	12/2/2016	mail.	o-Xviene	SW-816 8350C	10	<0.00030	L L	0.00050	0.0020		H516120124-04
HAP-5W03-120	N	12/2/2016	sist.	Plend	SW-316 8270D	7.1	×0.000036	UJL-MS-SD	0.000,33	0.0010	1	H516120124-01
HAP-SW03-120	N	12/2/2016	ng/L	Pyridise	SW-816 8279D	0.021	0.00055	JL-MS/SD	0.000031	9.00021		BS16120124-04
RAP-UA96-120	N	11/30/2016	mert.	Total dissolved solida	SM2540C	NS	536	71515/3027	,	0.0010		H516120124-04
HAP-UA96-120	N	11/30/2016	ng1.	Atsenic	SW-846 6020A	0.010	0.000811	1	5.00	10.0	1	HS16120073-10
HAP-DA06-120	N	11/30/2016	srut/1.	Bartun	SW-846 60 20A	20	0.0742		0.000400	9.00500	1	11516129073-10
HAP-UA06-120	N "	11/30/2016	mal.	Cadminu	SW-846 6020A	0.0050	-0.000200	U	0.09190	0.00500	. 1	HS16120073-10
HAP-UA96-120	N	11/39/2016	rist L.	Chromatan (refal)	SW-846 6020A	0.10	<0.000,000	. U	D.000100	0.00200		H\$16120073-10
HAP-UA96-120	N	11/30/2016	mz/L	Lead	SW-816 6030A	0.015	×0.000600	L L	0.006400	0.60500		HS16120073-10
HAP-UA06-120	N	11/39/2016	inz L	Selenium	SW-\$16 6020A	0.050	<0.000000	L L	0.000669	0,60 900	1	HS16120073-10
HAP-UA06-120	N	11/30/2016	tre.1.	Sdirt	SW-846 6029A	0.030	<8.000200		0.00110	0.00500		HS16120073-10
BAP-DA06-120	N	11/39/2016	mer.L.	Mercury	SW-846 7470A	9.0020	-0.0000300	U U	0.000200	0.00500		HS[6120073-18
HAP-UA96-120	×	11/30/2016	mg I.	Mercury	SW-846 7470A	0.0020	<0.000030s	U	0.0000300	0.000200	1	HS14120073-10
HAP-UA06-120	- 7	11/30/2016	me t.	Denzene	SW-816 8260C	0.0050	0.0050	.1/	0.0000,000	.0.000260	1	HS14120073410
HAP-UA96-120	И	11/30/2016	me.L	Ethylbergerm	SW-846 8260C	0.70	+:0.00030		0.00020	0.0010	1	HS(6120073-10
HAP-UA06-120	N i	11/30/2016	met.	Tolueno	SW-846 8269C	10	<0.00920		0.00030	0.0010		HS16120073-10
HAP-UA06-120	N	11/30/2016	met.1.	Nylene (total)	SW-846 8360C	10	<0.000,0	D .	0.000,0	0100.0		HS16120073-10
HAP-UA06-120	S	11/30/2016	ng L	m & p-Xylene	SW-846 8260C	10		U	6 ((603))	0.0010	1	11516120073-10
HAP-UA06-120	S	11/39/2016	mal.	o-Xylene	SW-816 \$260C	10	<0.07050	U	0.00050	0.0020		HS16120073-10
HAP-UA06-120	- 8	11/39/2016	mgt L	Pleno	5W-\$16 8210D	7.3	<0.000,30	U	0.00030	9100.0		IIS16120073-10
HAP-UA96-120	N	11/39/2016	mg-l.	Pyrishee	SW-\$16 8270D	0.024	<0.900035	DILAISISD	0.000035	0.00020		HS16120073-40
HAP-UA06-126	N	11/30/2016	mg L	Sulfate	SW-316 9056A		0.0042	JL-MS/SD	0.000030	0.0010	1	HS16129073-10
HAP-UA10-120	N	11/30/2016	me1.	Total dissolved solids	SM25100	NS NS	. R2.1		1.00	2.50	5	HSt6120973-10
HAP-UA10-120	N	11/30/2016	mc1.	Arsenic	SW-846 6020A	0.010	2490		3 00	100		HS16120073-11
HAP-UA10-120	N	11/30/2016	mz.L	Валин	SW-346 6030A	2.0	0.00734		0.000400	0.00500		.H516120073-11
HAP-UA16-120	N	11/30/2016	me.t.	Cadragn	SW-346 6030A	0.0050	D.0008		0.00190	0.00500	.1	11316120073-11
HAP-UA16-120	S	11/30/2016	mg/L	('hrvetsign (lotal)	SW-346 6020A	V.4450	<0.000200	Ü	0.000209	0.00200		HS16120073-11
HAP-UA10-120	N	11/30/2016	ne L	Leaf	SW-846 6026A	0.015	0.0161		0.000400	0,00500		HS16120073-11
HAP-UA10-120	N	11/30/2016	mg. L.	Sclorscen	5W-846 6020A	0.013	0.00785		0.000600	0,60500		JISI6120073-11
IAP-UA19-120	8	11/30/2016	mert.	Salva	5W-846 6020A		0.00662	UH-CCB	0.00116	0.00500		HS16120073-11
HAP-UA19-129	N	11/30/2016	me t.	Mercury	SW-846 7470A	0.12 0.0020	0.000200	U	0.000200	0.00,500	1	HS16129073-11
IAP-UA10-120	N	11/39/2016	mg L	Mercury	5W-846 7470A	0.0020	<0.0000300	U	0.6000,000	0.000200		HS[6130073-11
HAP-UA10-120	N	11/39/2016	mg/L	Benzene	SW-846 8260C		0.0000300	ţ)	0.0000300	0.000200	ı	HS16120073-11
IAP4UA10-120	N	11/30/2016	ma L	Ethylleszene	SW-846 8260C	0.0050	0.11		0.00020	0.0010		H516120073-11
IAP-UA10-120	N	11/30/2016	ing L	Toloene	SW-846 8360C	0.76	<0.00030	U	6.09030	0.50(10	1	HS16120073-11
IAP-UA16-120	N	11/30/2016	mg.T.	Nilene ((real)		1.0	(0.00020)	1)	6.09920	0.0010	1	HS16120073-11
IAP-UA10-120		11/30/2016	me/L	m & p-Xylene	SW-846 8260C	16	<0.0003a	Ł!	0.00030	0.0016	1	HS16120073-11
IAP-UA10-120	N	11/30/2016	me L	o-Xviene		10	0.00050	t)	0.00050	0.0020	1	HS16120073-11
IAP4(A10-120		11/30/2016	ng.L	Phend	SW-846 8560C	10	<0.00030	Į!	0.09030	0.9010	1	HS16120073-11
		12.04.07.07	nw.r	PERSON [SW-846 8270D	7.3	0.000035	UJE-MS SD	0.000033	65,000026	1	11516129073-11

Highlands Acid Pit December 2016 Sampling Data

	Sample	Dele			Analytical			Data Qualifler	Sample Detection Limit	Method Quantitation Limit	Dilution Factor	Laboratory ID
Sample ID	Type	Collected	Unite	Analyte	Method	LORP	Result	JI-MS/SD	0.00915	0.0050	5	HS16120073-11
HAP-UA10-120	N	11/30/2016	ma L	Pynáne	SW-516 8270D	0.024	0.025	H-MS-SO	19.0	250	50	HS16129073-11
HAP-UA10-120	N	11/30/2016	ng/L	Sulfair	SW-846 9056A	NS	1190	31-11)	560	10.0	l	HS16120073-15
HAP-UALL-120	N	12/1/2016	mg/1.	Total dissolved solids	SM2540C	NS	1590	31-1D	0.00010	0.00500	<u> </u>	HSt6120073-15
HAP-UATI-120	N	12/1/2016	mg.1.	Arsemi	SW-846 6020A	0.910	0.0104	31-313	0.00190	0.00500	 	HS16120073-15
HAP-UA11-120	N	12/1/2016	tie, L	Danim	SW-846 6020A	2.0	0.0399	JUD	0.600200	0.00200	i i	HS16120973-15
HAP-CATT-120	N	12/1/2016	mpl.	Cackresun	SW-846 6020A	6.0050	0,000665	31410	0.000100	0.00500	 	11S16120073-15
HAP-UATI-120	N	12-1/2014	11 gt. 1.	Chroman (total)	5W-846 6020A	0.10	0.0112	11-10	0.000660	0.00500	1	11516120073-15
HAP-UA11-120	N	12/1/2016	mg/L	l.es	SW-846 6920A	0.015	0.00273	CH-CCB-RB	0.00110	0.00500	1	11516120073-15
HAP-UA11-120	N	12/1/2016	mat.	Selemino	SW-846-6020A	0.050	-0.000200	Unathan	0.000200	0.00500	1 1	11516120073-15
HAP-UATI-120	N	12/1/2016	mg.l.	Salver	5W-846-6020A	0.12	6 0000300	U	0.0000300	0.000200	- i -	HS16120073-15
HAP-CA11-120	N	12/1/2016	ագ.1.	Mercury	SW-846 7470A	0.0020		U U	6.0006300	0.000200	1	HS16129073-15
HAP-UA11-120	N	12/1/2016	mg/l.	Merciny	SW-846 7470A	0.0020	- 0 0008300	нью	0 0 20	6.10	100	HS16120073-15
HAP-UATE-120	N N	12/1/2016	mg.t.	Destese	5W-346 8260C	0 (9)50	4.4	10	0.0030	11.016	10	HS16120073-15
RAP-UATI-120	N N	12/1/2016	mg/l.	Ethylbenzenz	SW-846 8260C	0.70	-0.0030	10FD	0.0020	0.010	19	HS16120073-15
HAP-UA11-120	N	12/1/2016	mg.1.	Teluene	SW-816 8269C	0.1	0.0064	3110	0.0030	0.010	10	HS14120073-15
HAP-UA11-120	N	12/1/2016	BQ. L	Nylene (total)	SW-846 8260C	10	0.037	31-17	0.0050	0.020	10	HS16120073-15
HAP-UATI-129	8	12/1/2016	mg/L	m & p-Xylene	SW-846 8760C	[0]	0.037	11	0.0030	0.010	10	HS16120073-15
HAP-UATI-120	N N	12/1/2016	mg/1.	o-Xytene	SW-816 8260C	ţo	+0,0030	IL MS SDJ D	0.00018	0.0010	3	BS16120073-15
HAP-UA11-120	N N	12/1/2016	me t.	Plant	SW-316 8276D	7,3	0.0045	JE-MS/SD	0.80015	0.0052	3	BS16120073-15
HAP-CA11-120		12/1/2016	ng/L	Pytidise	SW-846 8270D	0.024	0.028	11-11D	100	250	500	HS16120073-15
HAP-UATI-126	N	12/1/2016	ma1.	Sulface	SW-346 90 56A	NS	1430	1010	100	10.0	1	HS16120073-16
HAP-UA11-121	ED	12/1/2014	8業1.	Total dissolved totals	SM2540C	85	3280		6 000100	0.00500	i	HS16120073-16
HAP-UA11-121	FD	12/1/2016	ngL	Агясни	SW-846 6020A	0.010	0.0320	JI-FD	0.60190	0.00500	1	11516120073-16
HAP-UATI-121		12/1/2016	mg.L	Barinn	SW-346-6020A	20	0.0404	11410	0.00120	0.00200	 	11516120073-16
HAP-UATI-12		12/1/2016	mg.1.	Cadratin	SW-846 6020A	0.0016	0.00300		0.000400	0.00500	 	HS16120073-16
HAP-UA11-121		12 1/2016	put L	Clarenzian (tetal)	SW-\$16 6020A	0.10	0.0371	31-FD 31-FD	0.000609		 	HS16120073-16
HAP-UATI-12		12/1/2016	ma.L.	1.exi	SW-316 6020A	0.015	0.0186	UH-CCB-RB	0.00000	0.00500	+ i -	HS16120073-16
HAP-UATI-12	17)	12/1/2016	ng.T.	Seleman	SW-\$46 6020A	0.050	0.00539		0.000200	0.00590	1 - i -	HS16120073-16
HAP-UA11-12	ID	12/1/2016	mg:L	Silver	SW-846 6020A	0.12	<0.000200	L)	6.0000301		 	1(\$16120073-16
HAP-CATI-12		12/1/2016	troz 1.	Metcury	SW-846 7170A	0.0020	<0.0009300		0.0000300		1	HS16120073-16
HAPATATI-12		12-1-2016	mg/L	Mercury	SW-\$16 7170A	0.0020	<0.0000366	1	0.020	0 10	100	HS16120073-16
HAP-UATI-12		12/1/2016	mg/L	Benzens	SW-346 8260C	0.0050	13	JI-FD	0.0030	9,10	10	HS16120073-16
HAP-UATI-12		12/1/2016	ing L	Ethylberdene	SW-846 \$360C	6,70	-0.0036	U	0,0030	0.010	10	HS16120073-16
HAP-UAH-12		12/1/2016	mg.L	Folsess	SW-846 8269C	1.9	0.017	वस्त	0,0030	610.0	10	HS16120073-16
HAP-UATI-12		12/1/2016	ng.L	Nylene (total)	SW-816 8260C	10	0.11	31-FD	0.0050	9.030	10	HS16120073-16
HAP-UA11-12		12/1/2016	tre l.	m & p-Xylene	SW-\$16.8360C	10	0.11	भन्छ	0.0030	0.010	10	HS16120073-16
HAP-CATI-12		12 1/2016	mg.l.	o-Xylene	SW-816 8360C	10	0.0030	U	D 60030	0.0020	10	HS16120073-16
HAP-UAH-12		12/1/2016		Piscoci	5W-846 8270D	7.3	0.038	JL-MS/SD,FD	7,1	0.0030	10	HS16120073-16
HAP-UATE-12		12/1/2014		Pyridine	SW-816 8270D	0.024	0,032	/L-MS/SD	0.00039	250	500	HS16120073-16
HAP-UAH-12		12/1/2016		Sulfae	SW-846 9056A	88	2700	JEFD)		108	1	HS16120073-14
HAP-UA12-12		12/1/2016		रितानी तो escelved असीर्वन		NS.	2250		5 (0)			HS16120073-14
HAP-UA12-13		12/1/2016		Arszuic	SW-846 6020A	0.010	0.6279		0.000404		 	HS16120073-14
HAP-UA12-12		12/1/2016		numen	SW-846 6030A	20	0.0249		6,00190		+ +	HS14120073-14
TRACE AND A LOCAL	0 0	12/1/2016		Castorism	SW-846 6020A	0.0650	0.000503	,	8 800260	6.00200		92.915150015-15

Highlands Acid Pit December 2016 Sampling Data

Semple ID	Sample	Date			Analytical				Sample Detection	Mothod Quantitation	Ditulen	
HAP-UA12-120	Туре	Collected	Units	Analyto	Method	LORP	Result	Data Qualiflet	Limit	Limit	Factor	Laboratory ID
HAP-UA12-120	N N	12/1/2016	me I.	Chromana (total)	5W-846 60 DIA	0.16	0.0369		0.000400	0.60500	1	HS16120073-14
TAP-UAT2-120	N N	12/1/2016	nış, L	Leal	SW-846 6020A	0.015	0.00399	7	000000	0.00500		HS16129073-14
IAP-UA12-120	N	12/1/2016	mg/l.	Selenium	SW-846-6020A	0.059	0.00559	UH-CCEURD	0.00110	0.00500	-i-	HS16120073-14
HAP-UA12-120	N N	12/1/2016	Π½-L	Silver	5W-846 6020A	0.12	0,000200	Ľ	0.000,00	0.00500	- i -	HS16120073-14
tap-UA12-120	- N	12/1/2016	tug/L	Mercury	SW-816 7170A	0.0020	0.0000300	11	0.0029300	0.000200	<u> </u>	H516129073-14
IAP-UA12-120	N N	12 1/2016	rng/l.	Metchy	SW4846 7470A	0.0020	0.00000300	t ³	0.000368	0.000200	1	HS16120073-14
IAP-UA12-120	N N	12/1/2016	ng1.	Denzena	5W-346 8260C	0.0050	12		0.020	0.10	100	HSI6120073-14
tAP-UA12-120	N N	12/1/2016	πış/L	Ethyllenrer	SW-846 8260C	670	(4),6(33)	U	0.0030	0010	10	H\$16120073-14
IAP-UA12-120	N	12/1/2016	πg·l.	Toluene	SW-846 8260C	1.0	0.016		0.0020	0.010	10	HS16120073-14
IAP-UA12-120	N N	12/1/2016	. तथा	Xylene (total)	5W-316 8260C	10	8,11		0.0010	0.010	10	11516120073-11
IAP-UA12-120		12/1/2016	mg/L	m & p-Xylene	SW-846 8260C	10	0.11		0.0050	0.020	10	H\$16129073-14
IAP-UA12-120	N	12/1/2016	me, į.	o-Xylme	SW-816 8269C	10	<0.0030	U	0.0030	0.010	10	HS16120073-14
IAP-UA12-120	8	12/1/2016	arel.	Phenot	5W-\$16 8270D	7,3	0.019	ri Als sp	6.00689	0.0051	23	HS16120073-14
IAP-UA12-120	- ''	12/1/2016	Π¢/L	Pyridine	5W-\$46 8270D	0.024	u)*	JL-MS/SD	0.00077	0.026	25	HS16120073-14
IAP-E/A14-120	N	12/1/2016	mg/l.	Sulfat	2M-846 9036A	NS	580		10.0	250	50	HS16120073-14
IAP-UA14-129	- ' S	12/1/2016	ng L	Total desolved relids	SM2540C	NS	1. 00		5.00	100	1	HS16120073-12
AP-8/A [1-120]	- '' N	12/1/2016	mg/l.	Arsenic	ZW-840 6020A	0.010	6.20)		0.000400	0,00500	i	HS16126073-12
AP-UA14-120	N	12/1/2016	mg.l.	Danuai	SW-\$46 6020A	2.0	0.766		0.00[90	0.00500		H\$16120073-12
AP-UA14-120	N	12/1/2016		Calmin	SW-846 60 MA	0.0050	6.0107		6 000200	0.09200		11516120073-12
AP-UAT1-120	- <u>17</u>	12 1/2016	ing/L	Chromiun (lotal)	SW-\$46 6020A	0, 10	0.421		0.000100	.0.00,500		H\$16120073-12
AP-UA14-120	- N	12/1/2016	tree l.	Leal	A0000 018-W2	0.015	0.6242)	0.00300	0.0250	3	H\$16120073-12
AP-UA11-120	N N	12/1/2016	ne L	Scheneum	5W-846 6030A	0.850	0.0223		0.00110	0.09500		HS16120073-12
AP-UA11-120	N	12/1/2016	mg/L	Save	ZW-846 60/20Y	0.12	0.000200	U	0.000200	6.09590	1	HSI6120073-12
AP-UA11-120	N	12 1/2016	ng.i.	Moreny	SW-846 7470A	0 0020	0.000) 68	J	0.0000300	0.000200	1	HS16120073-12
AP-CA11-120	8	12/1/2016	ng L	Barrere	SW-846 7470A	0.0026	0.000168]	0.0000000	0 000200	T 1	HSt6120073-12
AP-UA11-120	N I	12/1/2016	me/L		SW-846 8260C	0.0050	16		0.040	0.20	200	HS16120073-12
AP-UA11-120	N N	12 1/2016	ng L	Ethyltenzene Tottene	SW-846 \$260C	0.70	:0.0030	Ų	0.0030	0.010	.10	HS14120073-12
AP-UA11-120	N	12/1/2016	BULL.	Nylene (total)	SW-846 8260C	10	0.032		9.0020	0100	16	HS16120073-12
AP-UA11-120	8	12/1/2016	πια/L	m & p-Xylene	SW-846 8260C	10	0.15		0.0030	0.010	10	HS[6120073-12
AP-UA11-120	N	12-1/2016	ng.L	e-Xylene	SW-846 S260C	10	0.15		0.0050	0.020	tu	11316120073-12
AP4/A14-120	N	12:1/2016	me L	Phenol	SW-846 8360C	10	0.0036	ti	9,0936	0010	10	HS16120073-12
AP-CALI-120	N	12/1/2016	ngl	Pyndar	SW-\$16 B270D	7.3	0.022	JF-W3/2D	0.00033	0.0051	25	H516120073-12
AP-UA11-120	N	12/1/2016	me L	Sufar	SW-816 9270D	0.024	0.13	JL-MS/SD	6.00676	0.025	25	HSI6120073-12
AP-UA15-120		11/30/2016	nse L	Total dissolved sobds	SW-846 9056A	NS	142		2 00	5,00	10	HS16120073-12
AP-UA15-120		11/39/2016	me L	Atsenic Atsenic	SW-846 6020A	NS NS	320		5.00	too	1	HSt6120073-08
AP-UA15-120		11/30/2016	tne L	Banum		0.010	0.0214		0.000100	0.00500	1	HS16120973-08
AP-UA15-120		11/39/2016	mz.L	Cathrium	SW-846 6020A	20	0.0 13		8 00 90	0,00500	1	HS1612007.3-68
AP-UA15-120		11/39/2016	ma L	Chromium (total)	SW-846 6020A SW-846 6020A	8,00,18	<0.000200	U	0.000290	0.00200	. 1	HS16120073-08
AP4/A15-120		11/30/2016	me L	Lead	2M-816 (0)20A	0.10	-0.000400	Ü	0.000460	0.00500	1	H516120073-08
AP-0/A15-120		11/30/2016	ng.L	Selenium	SW-816 6028A	0.615 0.656	<0.000000	ť	0.000500	0.00500	.1	HS16120073-08
AP-UA35-120		11/30/2016	ns.1.	Saver	SW-846 6020A		< 0.00110	LF .	61100.0	9,00500	1	HS16120073-08
AP-U A15-120		11/30/2016	Bre. L	Mercury	SW-846 7470A	0.12	< 0.000200	IJ	0.000200	0.00500	1	HS16120073-08
AP-1/A15-120		11/30/2016	me t	Proceeding	ON 1940 (4 (UA)	0.0020	- 0 0000300	II	0.0000300	0.000200		H516120073-08

Highlands Acid Plt December 2016 Sampling Data

Sample ID	Sample Type	Date Collected	Units	Analyte	Analytical :	LORP	Result	Dala Qualifior	Sample Detection Limit	Method Quantitation Limit	Dilution Factor	Laboratory ID
HAP-UA15-120	N	11/30/2016	nz.l.	Benzene	SW-846 8269C	0.0059	< 9.00020	ŧi.	0.03920	0.0010		11516120073-08
HAP-UA15-120	N	11/30/2016	ng/L	Ethylicums	SW-846 8260C	0.78	<0.00030	}	0.00030	0,0010	1	H516126073-08
HAP-UA15-178	8	11/30/2016	mail.	Toluens	SW-846 8260C	1.0	<0.00020	l/	0.00020	u 00‡0		HS16120073-08
HAP-UA15-120	N	11/39/2016	mg.1.	Nyfene (total)	5W-846 8260C	10	< 0.00039)	L.	0.93930	0.0010	1 .	HS16129073-08
HAP-UALS-120	N	11/30/2016	ng.t.	m & p-Xylene	5W-846 8260C	10	<0.00050	Į;	0.00050	0.0020	1	11516120073-08
HAP-UA15-120	N	11/30/2016	me-1.	»Xylene	SW-816 8260C	}0	<.0.60030	U	0.60630	0.0010		11516120073-08
HAP-UA15-120	N	TE39/2016	ng.1.	Plane	SW-816 8270D	7.3	0.000036	USL-MS/SD	0,000936	0.60820	1	HS16129073-08
HAP-UA15-120	N	H/30/2016	nu.i.	Pytrobne	5W-846 8270D	9,024	-U.003031	UJL-MS/SD	0.000031	0.0010	-	1151612907,3-08
HAP-UA15-120	N	11/30/2016	mal.	Sulfare	SW-845 9056A	NS	50.7		1.00	2.50	5	11516120073-08
HAP-UA16-120	N	11/30/2016	mel.	Futal dessolved soluls	SM2540C	NS	912		5.08	100		11516120973-09
HAP-42A16-120	N	11/39/2016	mg. L	Arvenic	SW-846 6920A	8010	0.000398	,	0.01000	0.00500		11516120073-09
HAP-UA16-120	N	11/30/2016	mg/l.	fianuni	SW-846 6020A	2.0	0.128		0.00190	0.00500		HS16120073-09
HAP-UA16-120	N	13/29/2016	ngt	Cadmin	SW-846 6020A	0.0050	~0,0002(s)	U	0.000200	0.09200	_	HS16120073-09
HAP-UA16-120	N	11/30/2016	me/L	Chermann (tetal)	SW-816 6920A	0.10	C01009.U	C)	0.006400	0.00500		JIS16120073-09
HAP-UA16-120	N	11/30/2016	mz.L	[.ea]	SW-846 6629A	0.013	6.600600	ť	D 000000	0.00500	_	HS16120073-09
HAP-UA16-120	N	11/30/2016	100.1.	Seleman	SW-846 6020A	0.050	< 0.00110	Ü	0,00110	0.00500	1	HSt6120073-09
HAP4/A16-120	N	11/39/2016	mg.L	Silver	SW-346 6020A	0.12	<0.000200	U	0.000260	9,60,500	_	HS16120073-09
HAP-UA16-120	N	11/38/2016	mg/L	Merciay	SW-846 7470A	0.0020	-:0.0000300	13	0.0000300	0.000260	1	HS16120073-09
HAP-UA16-120	8	11/39/2016	1112, 1.	Mercury	5W-846 7470A	0.0020	<0.0000300	IJ	0.0000300	0.000200	ı	HS16120073-69
HAP-UA16-120	N	11/30/2016	nw1.	li artetre	5W-846 82/60C	0,0050	6.4		0.020	0.10	190	HS16120073-09
HAP-UA (6-120	N	11/39/2016	ma L	Estathence	SW-\$16.8360C	0.70	< 0.6039	, U	0.0030	nate	[0	H\$16129073-09
HAP-UA16-120	N	11/39/2016	me l.	Toluene	5W-846 8360C	1.0	-0.0020	£l.	0.0020	ogo	10	11516120073-99
HAP-UA16-120	8 .	11/39/2016	ng L	Xylene ((etal)	SW-846 8260C	10	•0,0030	ŧ.	0.0030	0.00	10	H\$16120073-09
HAP-UA16-120	S	11/30/2016	ing/l.	m & p-Nylene	SW-846 8360C	10	<0.0050	11	0.0050	0.030	10	H\$16120073-09
HAP-UA16-120	N	11/30/2016	mg-L	o-Xylma	SW-846 8260C	10	< 0.0030	U	0.0030	0.010	10	HS16120073-09
HAP-UA16-120	N	11/30/2016	ne L	Phenal	SW-846 8270D	7.3	0.0017	fl. MS SD	0.000035	0.00020		J1S16120073-09
HAP-UA16-120	N	11/30/2016	ng L	Pyridine	SW-316 3270D	0.024	0.0038	JL MS SD	0.000030	0.0010		11516120073-09
HAP-UA16-128	N	11/39/2016	ne.t.	Solfate	SW-846 9056A		198		2.00	500	10	11516120073-09
		· ·										
HAP-SD01-123	N	12/2/2016	WT%	Percent moisture	ASTM D2216	NS	13.9		0,0100	0.0100	1	HS16120124-05
HAP-S001-123	Ŋ	12/2/2016	mg/kg	Asenic	SW-846 6020A	24	2.25		0.110	0.531	1	HS16120124-05
HAP-S001-123	Н	12/2/2016	mg/kg	Arsenic	51V-846 6020A	24	2.25		0.110	0.531		H\$16120124-05
HAP-SD01-123	N	12/2/2016	mg/kg	8arsum	SW-846 6020A	8100	45.4		0.0850	0.531	11	HS16120124-05
HAP-S001-123	N	12/2/2016	mg/kg	Barrum	5W-846 6020A	8100	45.4		0.0850	0.531	1	HS16120124-05
HAP-SD01-123	N .	12/2/2016	mg/kg	Çadmiym	SW-846 6020A	51	<0.053	υ	0.0530	0.531	1	HS16120124-05
HAP-SD01-123	N	12/2/2016	mg/kg	Cadmium	5W-846 6020A	51	<0.053	ឋ	0.0530	0.531	1	H516120124-05
HAP-SD01-123	N	12/2/2016	mg/kg	Chromium (total)	SW-846 6020A	27000	5.96		0.0960	0.531	1	HS16120124-05
HAP-5001-123	N	12/2/2016	mg/kg	Chromium (total)	5W-846 6020A	27000	5,96		0.0960	0.531	3	H516120124-05
HAP-SD01-123	N	12/2/2016	mg/kg	Lead	SW-846 6020A	500	7.07		0.0530	0.531	1	HS16120124-05
HAP-SD01-123	N	12/2/2016	mg/kg	Lead	SW-846 6020A	500	7.07	<u> </u>	0.0530	0.531	1	HS16120124-05
HAP-SD01-123	N	12/2/2016	eng/kg	Selenium	SW-846 6020A	310	0.388		0.390	0.531	11	HS16120124-05
HAP-SD01-123	N	12/2/2016	me/kg	Selenium	SW-346 6020A	310	0.388	J	0.190	0.531	1	HS16120124-05
HAP-SD01-123	N	12/2/2016	mg/kg	Sover	SW-846 6020A	97	<0.085	U	0.0850	0.531	1	HS16120124-09

Highlands Acid Pft December 2016 Sampling Data

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	Sample	Date			Analytica)				Detection	Quantitation	Dilution	
Sample ID	Type	Collected	Units	Analyte	Method	LORP	Result	Data Qualiflor	Limit	Limit	Factor	Laboratory ID
HAP-SD01-123	×	12/2/2016	mg/kg	Silver	SW-846 6020A	9)	<0.085	υ	0.0850	0.531	1	HS16120124-05
HAP-SD01-123	2	12/2/2016	mg/kg	Mercury	5W-846 7471A	2.1	0.0112		0.000590	0.00416	1	H516120124-05
HAP-\$001-123	×	12/2/2016	mg/kg	Mercury	SW-846 7471A	2.1	0.0112		0.000590	0.00416	1	H\$16120124-05
HAP-SD01-123	H	12/2/2016	mg/kg	Genzene	5W-846 8260C	69	<0.00046	Ų	0.00046	0,0046	1	H\$16120124-05
HAP-SD01-123	N	12/2/2016	mg/kg	Ethylbenzene	5VV-846 8260C	5300	< 0.00064	U	0.00064	0.0046	1	H516120124-05
HAP-5D01-123	N	12/2/2016	mg/kg	Toluese	5W-846 8260C	5400	<0.00055	U	0.00055	0.0046	1	H\$16120124-05
HAP-5D01-123	N	12/2/2016	mg/kg	Xyiene (totai)	SW-846 8260C	3700	<0.00092	Ų	0.00092	0.0046	7	H516120124-05
HAP-SD01-123	2	12/2/2016	mg/kg	m & p-Xylene	SW-846 82600	4700	< 0.0015	Ü	0.0015	0.0092	1	H\$16120124-05
HAP-\$DO1-123	N	12/2/2016	mg/kg	o-Xylene	51V-846 8260C	29000	<0.00092	Ų	0.00092	0.0046	1	HS16170124-05
HAP-SDG1-123	N	12/2/2016	mg/kg	Phanol	5W-846 82700	950	<0.0013	U	0.0013	0.0077	1	H\$16120124-05
HAP-SDO1-123	N	12/2/2016	me/kg	Pyridine	SW-846 8270D	82	<0.0010	υ	0.0010	0.0077	1	HS16120124-05
HAP-5002-120	N .	12/2/2016	WT%	Percent moisture	ASTM D2216	NS	18.6		0.0100	0.0100	1	HS16120124-06
HAP-SD02-120	N	12/2/2016	me/kg	Arsenic	SW-846 6020A	24	1.98	H-FD	0.120	0.587	1	H516120124-06
HAP-5002-120	Z	12/2/2016	mg/kg	Arsenic	SW-846 6020A	24	1.98	11-FD	0.120	0.587	1	HS16120124-06
HAP-SD02-120	N	12/2/2016	mg/kg	Barkem	SW-846 6020A	8100	124	JI-FD	0.0940	0.587	1	H516120124-06
HAP-5002-120	2	12/2/2016	mg/kg	Barsım	5W-846 6020A	8100	124	JI-FD	0.0940	0.587	1	H516120124-06
HAP-SD02-120	z	12/2/2016	mg/kg	Cadmium	SW-846 6020A	51	<0.059	υ	0.0590	9.587	1	HS16120124-06
HAP-SD02-120	2	12/2/2016	mg/kg	Cadmium)	SW-846 6020A	51	< 0.059	υ	0.0590	0.587	1	HS16120124-06
HAP-\$D02-120	N	12/2/2016	mg/kg	Chromium (total)	SW-846 6020A	27000	6.22		0.110	0.587	1	H\$16120124-06
HAP-5D02-120	2	12/2/2016	mg/kg	Chromium (total)	SW-846 6020A	27000	6.22		0.110	0.587	1	HS16120124-06
HAP-SD02-120	N	12/7/2016	mg/kg	Lead	SW-846 6020A	500	6.33	-	0.0590	0.587	1	HS16120124-06
HAP-5D02-120	N	12/2/2016	mg/kg	Lead	SW-846 6020A	500	6.33		0.0590	0.587	1	H516120124-06
HAP-5002-120	N	12/2/2016	mg/kg	Selenium	SW-846 6020A	310	0.493	,	0.210	0.587	1	HS16120124-06
HAP-5002-120	7	12/2/2016	mg/kg	Selenium	5W-846 6020A	310	0.493	,	0.210	0.587	1	HS16120124-06
HAP-SD02-120	N	12/2/2016	mg/kg	Silver	5W-846 6020A	97	<0.094	U	0.0940	0.587	1	HS16120124-06
HAP-SD02-120	N	12/2/2016	mg/kg	Silves	SW-346 6020A	97	< 0.094	U	0.0940	0.587	1	HS16120124-06
HAP-SD02-120	N	12/7/2016	mg/xg	Mercury	5W-846 7471A	2.1	0.00632	. л-FĐ	0.000630	0.00444	1	H516120124-06
HAP-SD02-120	N	12/2/2016	mg/kg	Mercury	SW-846 7471A	2.1	0.00632	H-FD	0.000630	0.00444		HS16120124-06
HAP-SD02-120		12/2/2016	mg/kg	Benzene	5W-846 8760C	69	<0.00050	U .	0.00050	0.0050	1	HS16120124-06
HAP-5D02-120	2	12/2/2016	ing/kg	Ethylbenzene	SW-846 8260C	5300	<0.00070	Ü	0.00070	0.0050	1	H\$16120124-06
HAP-SD02-120	N	12/2/2016	mg/kg	Toluene	5W-846 8260C	5400	<0.00060	U	0.00060	0.0050	1	HS16120124-06
HAP-SD02-120	N	12/2/2016	mg/kg	Xylene (total)	SW-846 8260C	3700	<0.0010	U	0.0010	0.0050	1	HS16120124-06
HAP-5D02-120	N	12/2/2016	mg/kg	m & p-Xylene	SIV-846 8260C	4700	₹100.0>	U	0.0016	0.010	1	H516120124-06
HAP-SD02-120	N	12/2/2016	mg/kg	o-Xylene	5W-846 8260C	29000	<0.0010	U	0.0010	0.0050	1	HS16120124-06
HAP-SD02-120	N	12/2/2016	mg/kg	Phenol	SW-845 82700	950	< 0.0014		0.0014	0.0081	1	H516120124-06
HAP-S002-120	Z	12/2/2016	mg/kg	Pyridine	SW-846 82700	82	< 0.0011	· U	0.0011	0.0081		HS16120124-06
HAP-SD02-121	fÐ	12/2/2016	WI%	Percent moisture	ASTM D2216	NS	19.4		0.0100	0.0100	1	HS16120124-07
HAP-5D02-121	FD	12/2/2016	mg/kg	Arsenic	5W-846 6020A	24	1.28	II-FD	0.120	0.590	1	HS16120124-07
HAP-SD02-121	FO	12/2/2016	mg/kg	Arsenic	SW-845 6020A	24	1.28	II-FO	0.120	0.590	1	HS16120124-07
HAP-SDOZ-121	FD	12/2/2016	mg/kg	Barium	51V-846 6020A	8100	36.5	Jł-FD	0.0940	0.590	1	HS16120124-07
HAP-SD02-121	FD	12/2/2016	mg/kg	Barium	SW-846 6020A	8100	36.5	14-ED	0.0946	0.590	i	HS16120124-07
HAP-SD02-121	FD	12/2/2016	mg/kg	Cadmium	SW-846 6020A	51	< 0.0590	υ	0.0590	0.590	1	HS16120124-07
HAP-SD02-121	FD	12/2/2016	eng/kg	Cadmium	5W-846 6020A	51	<0.0590	Ü	0.0590	0.590	1	H516120124-07
HAP-SDQ2-121	#D	12/2/2016	mg/kg	Chromium (total)	SVV-846 6020A	27000	4.13		0.110	0.590	1	HS16120124-07

Highlands Acid Pit December 2016 Sampling Data

	Sample Type	Date Collected	Unita	Analyta	Analytical Method	LORP	Result	Data Qualifier	Sample Detection Limit	Melhod Quantitation Limit	Dilution Factor	Laboratory ID
Sample ID HAP-5002-121	FO	12/2/2016	me/ke	Chromium (total)	SW-846 6020A	27000	4.13		0.110	0.590	1	H516120124-07
	FD FD	12/2/2016	mg/kg	Lead	SW-846 6020A	500	3.49		0.0590	0.590	<u> </u>	HS16120124-07
HAP-5002-121	FD FD	12/2/2016	mg/kg	Lead	SW-846 6020A	500	5.49		0.0590	0.590		HS16120124-07
HAP-SD02-121 HAP-SD02-121	FD	12/2/2016	mg/kg	Selenium	SW-846 6020A	310	0.408	1	0.210	0.590	1	H\$16120124-07
HAP-SD02-121	FD	12/2/2016	mg/kg	Selenium	SW-846 6020A	310	0.408		0.210	0.590	1	H516120124-07
HAP-SD02-121	FD FD	12/2/2016	me/kg	Silver	SV-846 6020A	97	<0.0940	ù	0.0940	0.590	1	H516120124-07
HAP-SD02-121	FD	12/2/2016	mg/kg	Silver	5W-846 6020A	97	<0.0940	Ū	0.0940	0.590	1	H516120124-07
HAP-5D02-121	FD	12/2/2016	mg/kg	Mercury	SW-846 7471A	2.1	0.00889	11-FD	0.000620	0.00439	3	H\$16120124-07
HAP-SD02-121	FD	12/2/2016	me/kg	Mercury	SW-846 7471A	2.1	0.00889	II-FD	0.000620	0.00439	- 1	H516120124-07
HAP-SO02-121	FD	12/2/2016	me/ke	Benzene	5W-846 8260C	69	<0.00048	U	0.00048	0.0048	1	H\$16120124-07
HAP-S002-121	FD	12/2/2016	me/ke	Ethylpenzene	SW-846 8260C	5300	<0.00067	ŭ	0.00067	0.0048	1	HS16120124-07
		12/2/2016		Toluene	SW-346 8260C	5400	<0.00057	- ū	0.00057	0.0048	1	HS16120124-07
HAP-5002-121	FD FD	12/2/2016	mg/kg mg/kg	Xviene (total)	SW-846 8260C	3700	<0.00096	Ü	0.00096	0.0048	1	H516120124-07
HAP-SD02-121 HAP-SD02-121	FD	17/2/2016	mg/kg	m & p-Xylene	SW-846 8260C	4700	<0.0015	- i	0.0015	0.0096	 	HS16120124-07
		12/2/2016		o-Xviene	SW-846 8260C	29000	<0.00096	ŭ	0.00095	0.0048	1	H516120124-07
HAP-SD02-121	FD FD	12/2/2016	mg/kg mg/kg	Phenol	SW-846 8270D	950	<0.0014	Ū	0.0014	0.0082	i	H\$16120124-07
HAP-SD02-121		12/2/2016	mg/kg	Pyridine	SW-846 82700	82	<0.0011	l ü	0.0011	0.0082	- i	HS16120124-07
HAP-5002-171	FD	12/2/2016	WT%	Percent moisture	ASTM D2216	NS NS	17.7		0.0100	0.0100	1	HS16120124-08
HAP-5D03-120	N	12/2/2016		Arsenic	SW-846 6020A	24	1.02		0.110	0.571		H516120124-08
HAP-SD03-120	H	12/2/2016	mg/kg mg/kg	Arsenic	5W-846 6020A	24	1.02		0.110	0.571		HS16120124-08
HAP-SD03-120	N	12/2/2016		Barium	SW-846 6020A	8100	17.4		0.0910	0.571	3	HS16120124-08
HAP-S003-170	N N		mg/kg	Barrum	5W-846 6020A	8100	17.4		0.0910	0.571	1	HS16120124-08
HAP-SD03-120		12/2/2016	mg/kg	Cadmium	SW-846 6020A	51	<0.057	U	0.0570	0.571	1	HS16120124-08
HAP-SD03-120	N	12/2/2016	mg/kg	Cadmium	SW-846 6020A	51	<0.057	ŭ	0.0570	0.571	1	HS16120124-08
HAP-5D03-120	2	12/2/2016	mg/kg mg/kg	Chromium (total)	SW-846 6020A	27000	2.92		0.100	0.571	<u> </u>	HS16120124-08
HAP-SD03-120				Chromium (total)	SW-846 6020A	27000	2.92		0.100	0.571		H516120124-08
HAP-SD03-120	N	12/2/2016	mg/kg	Lead Lead	5\V-846 6020A	500	4.53		0.0570	0.571	1	H516120124-08
HAP-5D03-120	N	12/2/2016	mg/kg	Lead	SW-846 6020A	500	4.53		0.0570	0.571	1	HS16120124-08
HAP-SD03-120	2	12/2/2016	mg/kg	Selenium	SW-846 6020A	310	<0.21	U	0.210	0.571	1	И\$16120124-08
HAP-SD03-120	N	12/2/2016	mg/kg	Selenium	SW-846 6020A	310	<0.21 <0.21	<u>-</u> -	0.210	0.571	<u> </u>	H516120124-08
HAP-5003-120	N	12/2/2016	mg/kg	Saver	SW-845 6020A	97	₹0.091	ŭ	0.0910	0.571	1	H516120124-08
HAP-SD03-120	N	12/2/2016	mg/kg	Silvez	SW-846 6020A	97	<0.091	ŭ	0.0910	0.571	- i	HS16120124-08
HAP-SD03-120	N		mg/kg	Mercury	SW-846 7471A	2.1	0.00815	 	0.000610	0.00428	1	HS16120124-08
HAP-5D03-120	N	12/2/2016	mg/kg	Mercury	SW-846 7471A	7.1	0.00815		0.000610	0.00128	- 1	HS16120124-08
HAP-SD03-120	N	12/2/2016	mg/kg	Benzene	5W-846 8260C	69	<0.00041	U	0.00041	0.0041	 i 	HS16120124-08
HAP-SD03-120	N	12/2/2016	mg/kg	Ethylbenzene	5V-846 8260C	5300	<0.00057		0.00057	0.0041	l i	HS16120124-08
HAP-5003-120	N	12/2/2016	mg/kg	Toluene	5W-846 8260C	5400	<0.00049	- ŭ	0.00049	0.0041	l î	HS16120124-08
HAP-SD03-120	N	12/2/2016	mg/kg		5W-846 8260C	3700	<0.00081	i i ·	0.00081	0.0041	 	HS16120124-08
HAP-S003-120	N	12/2/2016	mg/kg	Xylene (total)	5W-846 8260C	4760	<0.0013	 	0.0013	0.0031	- i -	H516120124-08
HAP-S003-120	N	12/2/2016	mg/kg	m & p-Xylene	SW-846 8260C	29000	<0.00031	-	0.00081	0.0041	 	HS16120124-08
HAP-SD03-120	N	12/2/2016	mg/kg	o-Xylene		950	<0.0013		0.0013	0.0041	 	HS16120124-GB
HAP-SD03-120	N	12/2/2016	mg/kg	Pheno!	SW-846 8270D	52	<0.0011		0.0013	0.0080	- i -	HS16120124-08
HAP-SD03-120	N	12/2/2016	mg/kg	Pyridine	SW-846 8270D	54	1 (0.001)	i 4	0.0011	V.2222	<u> </u>	4

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Highlands Acid Pit December 2016 Sampling Data

		San Die Keino
Sample Date	1 Analytical	A CONTRACT OF THE PROPERTY OF
		Detection Quantitation Dilution
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LORG of well-of Equation reterminates - The generative most nature when some my h-milligroup per later my \$2 - milligroup per later part. NS - No specified [Additional for the Examination of Wind and Washington \$4.5 - Small Million for Evaluating Solid Wash. Hydrical Chemical Methods. ICEO - Text Medicals for Evaluating Solid Wash. Hydrical Chemical Methods. ICEO - Text in Communication on Europeanated Quality.

Inde Condition Definition.

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CCB - Confining californium Mad, continuantou
PD - Field deployers evaluation enterin not not
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RD - Field deployers - Stems egalectronium spale deployers and se precision arteria not aunt
RD - Field blank continuantation
SCB - Samophic receivery consider acceptance range

these Codes.

H - Bussus sangels count as filedly to be high
1 - Dias us sample count is indeterminate.
1 - Buss in comple resort is filedly to be loss.

APPENDIX I - INTERVIEW FORMS

Highlands Acid Pit Superfund Site

Five-Year Review Interview Form

Site Name: Hig

Highlands Acid Pit

EPA ID No.:

TXD980514996

Interviewer Name:

Eric Marsh

Affiliation:

<u>Skeo</u>

Subject Name:

Stephen Pereira

Affiliation:

EPA

Subject Contact Information:

Time:

Date: 12/18

12/18/2016

Interview Location:

Interview Format (circle one): In Person

Phone

Mail

Other: Email

Interview Category:

Federal Agency

1. What is your overall impression of the project, including cleanup, maintenance and reuse activities (as appropriate)?

My overall impression of the project is that the site has been well maintained and is protective of both human and environmental health. Operations and maintenance activities at the site are continuous. The EPA supports the possibility of the site being used for future reuse as long as it doesn't adversely impact the current remedy.

2. What is your assessment of the current performance of the remedy in place at the Site?

The remedy for this site appears to be effective. This particular remedy was chosen because there were no Contaminants of Concern (COC) that were detected above the Federal Drinking Water Maximum Contaminant Limits (MCL) in any of the surface water or deeper aquifers. Sampling data shows that there have been detections of COC in both the middle and deep aquifers occurring during subsequent sampling events. Therefore, further sampling maybe needed.

3. Are you aware of any complaints or inquiries regarding site-related environmental issues or remedial activities from residents in the past five years?

There was an inquiry from Lone Star Legal Aid. I followed up with them with a phone call. Their inquiry was about another Superfund Site in the area.

4. Has your office conducted any site-related activities or communications in the past five years apart from routine activities? If so, please describe the purpose and results of these activities.

The EPA has provided facts sheets, updated the repository, interviewed government officials, and updated the EPA website for Highlands Acid Pits.

5. Are you aware of any changes to state laws in the past five years that might affect the protectiveness of the Site's remedy?

No, the EPA is not aware of any changes in state law that might affect the protectiveness of the remedy.

6. Are you comfortable with the status of the institutional controls at the Site? If not, what are the associated outstanding issues?

Yes, the EPA is comfortable with the institution controls at the site.

7. Do you feel that the recommendations from the 2012 Five-Year Review have been adequately addressed? Please explain.

Yes, the EPA feels that the recommendations from the 2012 Five Year-Review have been adequately addressed.

8. Are you aware of any changes in projected land use(s) at the Site?

No, the EPA is not aware of any changes in projected land use at the site.

9. Do you have any comments, suggestions or recommendations regarding the management or operation of the Site's remedy?

The EPA recommends an investigation to assess the movement of site-related contaminants in both the middle and deep aquifers.

Highlands Acid Pit Superfund Site	Five-Year Review Interview Form				
Site Name: Highlands Acid Pit	EPA ID No.: <u>TXD980514996</u>				
Interviewer Name: <u>Ian Penn</u>	Affiliation: <u>Skeo</u>				
Subject Name: Sherell Heidt	Affiliation: <u>TCEQ</u>				
Subject Contact Information:					
Time:	Date: January 17, 2017				
Interview Location:					
Interview Format (circle one): In Person	Phone Mail Other Email				
Interview Category: State Agency					

1. What is your overall impression of the project, including cleanup, maintenance and reuse activities (as

1. What is your overall impression of the project, including cleanup, maintenance and reuse activities (as appropriate)?

My overall impression of the remedy at the site is that it continues to be protective of human health and the environment. Currently, the site is not being reused, and operations and maintenance activities at the site are ongoing. The TCEQ is supportive of the potential future reuse of the site that does not negatively impact the implemented site remedy.

2. What is your assessment of the current performance of the remedy in place at the Site?

Currently, the remedy appears to be functioning as designed. However, the remedy was selected because no contaminants of concern were detected above the Federal Drinking Water Maximum Contaminant Limits (MCL) in any of the surface water bodies or deeper aquifers. Subsequent analysis of the groundwater on-site showed persistent detections of contaminants of concern in the middle and deep aquifers, which may warrant further analysis of remedy performance.

3. Are you aware of any complaints or inquiries regarding site-related environmental issues or remedial activities from residents in the past five years?

Yes. On July 11, 2016, I received a phone call from a representative of a legal organization pertaining to questions in regards to the site. I referred the representative to the EPA and informed the EPA of the referral.

4. Has your office conducted any site-related activities or communications in the past five years apart from routine activities? If so, please describe the purpose and results of these activities.

No.

5. Are you aware of any changes to state laws in the past five years that might affect the protectiveness of the Site's remedy?

No.

6. Are you comfortable with the status of the institutional controls at the Site? If not, what are the associated outstanding issues?

Yes.

7. Do you feel that the recommendations from the 2012 Five-Year Review have been adequately addressed? Please explain.

Yes. The TCEQ has addressed all operations and maintenance issues that were identified during the 2012 Five-Year Review. The TCEQ has regularly conducted O&M activities on a semi-annual basis for groundwater, surface water, and sediment sampling. The TCEQ removed two unlabeled drums, which were identified during the 2012 Five-Year Review from the site. As recommended in the 2012 Five-Year Review, the TCEQ has performed surveying activities at the site.

8. Are you aware of any changes in projected land use(s) at the Site?

No.

9. Do you have any comments, suggestions or recommendations regarding the management or operation of the Site's remedy?

Benzene concentrations have consistently exceeded the Federal Drinking Water MCL and the Texas Protective Concentration Limit (PCL) of 0.005 mg/L in the upper aquifer. However, since the last Five Year, benzene concentrations have been detected above the MCL in middle aquifer well MA-06 at estimated concentrations and below the MCL in other middle aquifer wells. Benzene concentrations have been detected above the MCL in deep aquifer well DA-06 and below the MCL in deep aquifer well DA-08 at an estimated concentration. Arsenic has consistently been detected at concentrations that exceed the MCL and PCL of 0.01 mg/L in the upper and middle aquifers and has been detected at concentrations that do not exceed the MCL and PCL in the deeper aquifer.

Since the most recent Five-Year Review, benzene has been intermittently detected at concentrations that range from 0.00028 to 0.020 mg/L in the adjacent surface water. Arsenic is consistently detected at concentrations that range from 0.00204 mg/L to 0.00535 mg/L and 0.0403 mg/L to 2.80 mg/L in the collected surface water and sediment samples respectively.

As of the date the Record of Decision (ROD) for operable unit 02 was finalized, no contaminants of concern were detected in the middle or deep aquifers. Also, upon the completion of the source removal action, it was expected that the surface water contamination from runoff would be eliminated and the source of the contaminant loading to the upper aquifer would be removed. With the exception of total chromium detected at a concentration of 0.005 mg/L in Grennel Slough, no of contaminants of concern were detected in the surface water (San Jacinto River, Grennel Slough, Clear Lake, or the Sand Pits). Also, it was expected that the middle aquifer would not be affected by contaminants already present in the shallow aquifer and the clay aquitard. The ROD states that if contamination does break through the clay aquitard, corrective action can be initiated before levels of concern are reached. According to the ROD, if an increase in contaminants from the site is detected during a monitoring period, an investigation would be initiated to determine the need for future action.

The ROD states that if monitoring reveals that the site continues to release contamination such that the adjoining surface waters or deeper groundwater is adversely impacted, then further action will be considered. The TCEQ recommends that the EPA perform additional studies to assess the potential impact of the contamination in the middle and deep aquifers, adjacent surface waters, and site sediments.

The TCEQ recommends that the EPA conduct a drinking water survey of the immediate area surrounding the site and sample any nearby private water wells to determine whether drinking water quality has been impacted. The TCEQ recommends an investigation to assess the movement of site-related contaminants in the middle and deep aquifers and an investigation of potential tidal influences.

10.		ve permission for the				Review Repo	ort and append	lices,
	which beco	omes a public docu	ment? Please	initia	ıl below.			
	a)	Your name?	V_{ec}	Y	Nο			

b) Your affiliation? Yes X No Your responses? Yes X No

Highlands Acid Pit Superfund Site

Five-Year Review Interview Form

Site Name:

Highlands Acid Pit

EPA ID No.: Affiliation: Ian Penn

TXD980514996

Interviewer Name: Subject Name:

John Hogue

Affiliation:

Skeo/

Subject Contact Information:

Time:

Date:

AECOM

Interview Location:

11/30/2016

Interview Format (circle one):

In Person

Phone

Mail

Other: Email

Interview Category:

O&M Contractor

1. What is your overall impression of the project, including cleanup, maintenance and reuse activities (as appropriate)?

The clean-up and maintenance activities conducted at the Highlands Acid Pit site have been adequate and cost effective to maintain the site and integrity of the cap & monitoring well network.

2. What is your assessment of the current performance of the remedy in place at the Site?

Regular monitoring, occurring on a semi-annual basis, is sufficient to assess the continued effectiveness of the on-going natural attenuation processes. However, detections in the middle aquifer are becoming more frequent suggesting additional actions may be needed to assess the potential for further COC migration (i.e., impacts to deeper aquifers and off-site laterally). Also, given development in the area and the potential for associated additional groundwater use, it may be timely to review and evaluate the site area for new potential receptors (i.e., updated water well survey).

3. What are the findings from the monitoring data? What are the key trends in contaminant levels that are being documented over time at the Site?

Organic contaminant (i.e., benzene) concentrations in select shallow zone monitoring wells have not declined significantly and, in many wells, are still well above the maximum concentrations limit (MCL) and Texas protective concentration limit (PCL) of 0.005 mg/L in the shallow aquifer. Intermittent detections have also been observed in select middle aquifer wells which were predicted in the 1987 ROD should COCs migrate to deeper zones from the shallow aquifer.

Inorganic contaminant concentrations continue to vary across the site in all aquifers with observed MCL exceedances occurring in the shallow and middle aquifers. The presence of organic COCs may result in reducing conditions which promote the mobility of select inorganic COCs. Turbidity in collected groundwater samples is often excessive and may also contribute to the variations in detected inorganic concentrations.

There have been no exceedances detected in either the sediment or surface water samples; however, the limited sampling program may not be adequate to assess migration in these media as dilution/diffusion would also make it more difficult to recognize potential off-site migration in a timely manner.

4. Do you feel that the recommendations from the 2012 Five-Year Review have been adequately addressed? Please explain.

Yes, recommendations from the 2012 Five-Year Review are being adequately addressed. Semi-annual groundwater in the upper, middle and deep aquifer continues as recommended. Surface water and surface sediment sampling has been conducted semi-annually for the past five years as recommended. Well integrity is routinely inspected and maintenance performed as needed. A significant well maintenance effort was completed in August 2014. As recommended, the site was resurveyed in 2013. Monitoring well tops of casing and significant site benchmarks were re-established and are being used to calculate potentiometric surface elevations in the three site aquifers. Site-derived waste is being properly labelled, profiled, and removed promptly for disposal following each field event.

5. Can you describe staff responsibilities and the frequency of site inspections and activities if there is not a continuous on-site O&M presence at the Site?

Field personnel conduct site inspection and maintenance activities during each semi-annual monitoring event. The inspections include an assessment of site security fencing integrity along the perimeter of the site and surrounding the individual well enclosures. Vegetation along the perimeter fence may be treated with a commercial herbicide and subsequently cut/removed and the cap area mowed. The cap is inspected for erosion or thinning during the mowing and sampling events. Periodic fence repair activities, including replacement of internal chain-link fencing and additional barbed wire top fence, are completed as necessary. Signage is checked and/or secured during subsequent inspection/sampling events. The condition and security of the monitoring well network is inspected during each sampling event. The inspections include assessing the well cap, cover, lock, pad integrity and identification markings. Personnel complete the Operation and Maintenance Inspection Checklist at the conclusion of each O&M visit.

6. Have there been any significant changes in site O&M requirements, maintenance schedules or sampling routines in the last five years? If so, do they affect the protectiveness or effectiveness of the remedy? Please describe changes and impacts.

There have been no significant changes in site O&M requirements, maintenance schedules or sampling routines in the last five years.

7. Have there been unexpected O&M difficulties or costs at the Site in the last five years? If so, please provide details.

In August 2014, monitoring well maintenance repairs were implemented including the replacement of five (5) surface casings, painting and re-numbering as needed, the replacement of worn compression caps, and installation of several new locks to replace rusty locks securing the wells.

There were minor additional expenses incurred during 2015 to repair sections of internal chain link fencing damage by a tree limb that feel from a tree onto an internal well enclosure.

8. Have there been opportunities to optimize O&M activities or sampling efforts in the last five years? Please describe changes and any resulting or desired cost savings or improved efficiencies.

The sampling and O&M activities continue to be completed by trained AECOM personnel that have direct, past experience working at the Highlands Acid Pit site.

9. Please provide a general summary of O&M costs for the past five years in the table below:

Annual O&M Costs (based on TCEQ fiscal year work order costs)

Date Range Total Cost (rounded to the nearest \$1,000)

2012	\$88K
2013	\$91K
2014	\$90K
2015	\$77K
2016	\$80K

10. Do you have any comments, suggestions or recommendations regarding O&M activities and schedules at the Site?

None at present. The TCEQ project manager is very attentive to the O&M needs as they arise.

11. Do you give permission for the following to be included in the FYR Report and appendices, which becomes a public document? Please initial below.

a)	Your name?	Yes	976x	No
b)	Your affiliation?	Yes	976x	No
c)_	Your responses?	Yes	976x	No

Highlands Acid Pit Superfund Site

Five-Year Review Interview Form

Site Name:

Highlands Acid Pit

EPA ID No.:

TXD980514996

Interviewer Name: Subject Name:

Eric Marsh Bob Allen / Affiliation: Affiliation: Skeo Harris County Pollution

Marisela Lozano Control Services Dept.

Subject Contact Information:

Time: 2:30 p.m.

Date: 12/5/2016

Interview Location:

Office for Harris County Pollution Control Services Department

Interview Format (circle one):

In Person

Phone Mail

Other:

Interview Category:

Local Government

1. Are you aware of the former environmental issues at the Site and the cleanup activities that have taken place to date?

We have some understanding of the Site.

2. Do you feel well-informed regarding the Site's activities and remedial progress? If not, how might EPA convey site-related information in the future?

It is a Site that has been associated with the San Jacinto Waste Pits site. The Site has not risen to the level of concern requiring more resources from the County.

No. Pollution Control Services Department files do not show any recent EPA updates regarding the Site. The latest update posted on EPA's website is the FYR Report from 2007. The FYR Report from 2012 is not yet posted. An EPA publication posted online dated March 8, 2013, states that annual site updates would begin. EPA has not been providing annual site updates. EPA can convey site-related information by sending updates via email or mail outs, hosting public meetings, and by posting information on the EPA website and at the local repository.

3. Have there been any problems with unusual or unexpected activities at the Site in the past five years, such as emergency response, vandalism or trespassing?

No complaints. The Site will come up in discussion every once in a while at San Jacinto Waste Pits site meetings. We have not heard anything about unusual activity at the Site that would warrant a response from us.

4. Are you aware of any changes to state laws or local regulations in the past five years that might affect the protectiveness of the Site's remedy?

No.

5. Are you aware of any changes in projected land use(s) at the Site?

No. Only conversation about the Site is at San Jacinto Waste Pits site meetings. People are aware. There are people in Highlands that feel surrounded by high levels of toxicity.

6. Has EPA kept involved parties and surrounding neighbors informed of activities at the Site? How can EPA best provide site-related information in the future?

Unsure about the extent to which EPA has kept involved parties and surrounding neighbors informed of activities at the Site. In terms of how EPA can best provide site-related information in the future: 1) get the

word out that you are doing the FYR – we would rather EPA do this than us. Once the FYR is complete, share the issues and recommendations with the public. It would also be nice if you could put the FYR and groundwater monitoring reports online, once they are complete. Also, recommend putting the 2012 FYR Report online.

7. Do you have any comments, suggestions or recommendations regarding the project?

We would like to get a copy of the FYR Report once complete to include in our files.

Delineate groundwater flow in the groundwater bearing units and conduct residential well sampling to determine if residential wells are being impacted due to concerns about contaminant level exceedances.

Ensure that the Site's Community Involvement Plan is being followed.

8.	Do you giv	e permission for the f	ollowing to be included in the FYR Report and appendices, which becomes a
	public docu	ıment? Please initial	elow.
	a)	Your name?	Yes X No
	b)	Your affiliation?	Yes X No
	c)	Your responses?	Yes X No

	ighlands Acid Pit Superfund Site Five-Year Review Interview Form
In	te Name: Highlands Acid Pit EPA ID No.: TXD980514996 terviewer Name: Eric Marsh Affiliation: Skeo Posidont
Su	bject Name: Affiliation: Resident bject Contact Information:
	me: <u>11:00 a.m.</u> <u>Date:</u> <u>12/05/2016</u> terview Location: <u>Highlands, Texas</u>
In	terview Format (circle one): In Person Phone Mail Other:
In	terview Category: Residents, Businesses and Organizations
1.	Are you aware of the former environmental issues at the Site and the cleanup activities that have taken place to date?
	Grew up in Channelview. Lived here for 15 years.
2.	What is your overall impression of the project, including cleanup, maintenance and reuse activities (as appropriate)?
	Last I read was when they found a hole there and they were going to fix it. This was a few months ago.
3.	What have been the effects of the Site on the surrounding community, if any?
	Causing skin cancer. My brother had it. Also, flesh-eating disease in water.
4.	Have there been any problems with unusual or unexpected activities at the Site in the past five years, such as emergency response, vandalism or trespassing?
	No.
5.	Has EPA kept involved parties and surrounding neighbors informed of activities at the Site? How can EPA best provide site-related information in the future?
	No. The best way to provide site-related information would be through my phone.
6.	Do you own a private well in addition to or instead of accessing city/municipal water supplies? If so, for what purpose(s) is your private well used?
	No. On city water.
7.	Do you have any comments, suggestions or recommendations regarding any aspects of the project?
	No.
8.	Do you give permission for the following to be included in the Five-Year Review Report and appendices, which becomes a public document? Please initial below. a) Your name? Yes X No

	Highlands Acid Pit Superfund Site Five-Year Review Interview Form
	Site Name: Highlands Acid Pit EPA ID No.: TXD980514996
	Interviewer Name: <u>Eric Marsh</u> Affiliation: <u>Skeo</u> Subject Name: Affiliation: Resident
	Subject Name: Affiliation: <u>Resident</u> Subject Contact Information:
	Time: 10:30 a.m. <u>Date:</u> 12/05/2016
	Interview Location: <u>Highlands, Texas</u>
_	Interview Format (circle one): In Person Phone Mail Other:
	Interview Category: Residents, Businesses and Organizations
1.	Are you aware of the former environmental issues at the Site and the cleanup activities that have taken place to date?
	I know about it. I go down there when it floods. When it floods, it is all underwater — the signs are all underwater.
2.	What is your overall impression of the project, including cleanup, maintenance and reuse activities (as appropriate)?
	Not aware of the cleanup really. There was an explosion on the water in the 1990s. We received some compensation from this.
3.	What have been the effects of this Site on the surrounding community, if any?
	None identified.
4.	Have there been any problems with unusual or unexpected activities at the Site in the past five years, such as emergency response, vandalism or trespassing?
	None identified.
5.	Has EPA kept involved parties and surrounding neighbors informed of activities at the Site? How can EPA best provide site-related information in the future?
	No information given to us about the Site.
6.	Do you own a private well in addition to or instead of accessing city/municipal water supplies? If so, for what purpose(s) is your private well used?
	No.
7.	Do you have any comments, suggestions or recommendations regarding any aspects of the project?
	No.
8.	Do you give permission for the following to be included in the Five-Year Review Report and appendices, which becomes a public document? Please initial below. a. Your name? Yes No X b. Your affiliation? Yes No c. Your responses? Yes X No

Highlands Acid Pit Superfund Site Five-Year Review Interview Form

Site Name: Highlands Acid Pit EPA ID No.: TXD980514996

Interviewer Name:Eric MarshAffiliation:SkeoSubject Name:Affiliation:Resident

Subject Contact Information:

Time: 12:00 p.m. <u>Date: 12/05/2016</u>

Interview Location: <u>Location Information Here</u>

Interview Format (circle one): In Person Phone Mail Other:

Interview Category: Residents, Businesses and Organizations

1. Are you aware of the former environmental issues at the Site and the cleanup activities that have taken place to date?

Came to Highlands in 1959, moved to this home in 1960. Yes, now it has been cleaned up. My husband has just died from a rare, aggressive form of cancer. There was a boy who developed a brain tumor when he was 3-4 years old, but survived. People nearby have had cancers. When you put them together, you get a big group of people that have died from cancers. I have Parkinson's disease. Not sure if it is related but the San Jacinto Coalition added me to their list because of my disease. I have two daughters — one is deceased.

2. What is your overall impression of the project, including cleanup, maintenance and reuse activities (as appropriate)?

We have lived on this property since 1960. When we moved here in 1960 there was a swimming hole, but it was not too many years after that it was closed.

3. What have been the effects of this Site on the surrounding community, if any?

I know lots of people down the road that have died of cancer. I do feel that something needs to be done.

4. Have there been any problems with unusual or unexpected activities at the Site in the past five years, such as emergency response, vandalism or trespassing?

I don't know about this. There is a half-way house down the road.

5. Has EPA kept involved parties and surrounding neighbors informed of activities at the Site? How can EPA best provide site-related information in the future?

No. The San Jacinto River Coalition has provided information.

6. Do you own a private well in addition to or instead of accessing city/municipal water supplies? If so, for what purpose(s) is your private well used?

No.

7. Do you have any comments, suggestions or recommendations regarding any aspects of the project?

The only thing that pops in my head is that we should all work together to clean up the river and clean up the sites. EPA has resources that others do not have to do this.

8.	. Do you give permission for the following to be included in the Five-Year Review Report and appendices.						
	which beco	mes a public document	t? Please initia	l belov	W.		
	a.	Your name?	Yes	No	X		
	b.	Your affiliation?	Yes	No	<u> </u>		
	c.	Your responses?	Yes X	No _			

H	lighlands Acid Pit Superfund Site			Revi	ew Interview Form	
	te Name: <u>Highlands Acid Pit</u>	EPA II		TXD980514996		
	iterviewer Name: <u>Ian Penn</u> ubject Name:	Affiliat Affiliat		Skeo Resid	ent	
	ubject Ivame. ubject Contact Information:	1 1111111111	****	110010		
T	ime: <u>11:00 a.m.</u>	Date:	12/05/2	<u> 2016</u>		
In	terview Location: <u>Highlands, Texas</u>					
In	nterview Format (circle one): In Person	Phone	M:	ail	Other:	
In	nterview Category: Residents, Businesses and	l Organiz	zations			
1.	Are you aware of the former environmental issues to date?	at the Sit	e and the	e cleani	up activities that have taken	place
	Yes, I am aware of the Site. There has been dioxin	in people	e's yards	that ne	eds to be cleaned up.	
2.	What is your overall impression of the project, incappropriate)?	luding cle	eanup, m	naintena	nce and reuse activities (as	
	I do not know much about what went into the clear access to the oil drilling site next door.	nup. I kno	ow some	people	on Clearlake Road used to h	ıave
3.	What have been the effects of this Site on the surro	ounding c	ommuni	ity, if ar	y?	
	Not aware of any effects.					
4.	Have there been any problems with unusual or une emergency response, vandalism or trespassing?	expected	activities	s at the	Site in the past five years, su	ch as
	Probably trespassing and trash dumping. People is swimming and fishing goes on in the ponds to the			ss to the	adjoining property. Some	
5.	Has EPA kept involved parties and surrounding ne best provide site-related information in the future?		nformed	l of acti	vities at the Site? How can E	EPA
	Not really. Periodic updates would be helpful.					
6.	Do you own a private well in addition to or instead purpose(s) is your private well used?	d of acces	ssing city	//munic	ipal water supplies? If so, fo	r what
	No well, on City water.					
7.	Do you have any comments, suggestions or recom	ımendatic	ns regar	ding an	y aspects of the project?	
	Because people do go back there some times to sw better understand the Site.	vim or fisi	h or be o	on site, s	end out information so peop	rle
8.	Do you give permission for the following to be incompleted which becomes a public document? Please initial a. Your name? Yes X b. Your affiliation? Yes c. Your responses? Yes X	below.		-Year F	Review Report and appendic	es,

	Highlands Acid Pit Superfund Site			Review Interview Form
	site Name: <u>Highlands Acid Pit</u> nterviewer Name: <u>Eric Marsh</u>	EPA ID I Affiliatio		TXD980514996 Skeo
	Subject Name:	Affiliatio		Resident
	Subject Contact Information: Sime: <u>11:30 a.m.</u>	Date: 1	12/05/2	0016
	nterview Location: <u>Highlands, Texas</u>	Date.	LAI USI Z	<u>.010</u>
_ <u>I</u>	nterview Format (circle one): In Person) Phone	Ma	il Other:
I	nterview Category: Residents, Businesses a	ınd Organizat	tions	
1.	Are you aware of the former environmental issu to date?	ues at the Site a	and the	cleanup activities that have taken place
	Lived in Highlands for 12 years. Aware of the S	ite, but less so	specif	ic site issues.
2.	What is your overall impression of the project, i appropriate)?	ncluding clear	nup, m	aintenance and reuse activities (as
	I have lived here for 12 years and I do not think	it has change	d. Used	d to fish off a dock near there.
3.	What have been the effects of this Site on the su	rrounding con	nmunit	y, if any?
	Some mention of people dying. Problems with fi	sh, crabs in Sc	an Jaci	nto River?
4.	Have there been any problems with unusual or u emergency response, vandalism or trespassing?	inexpected act	ivities	at the Site in the past five years, such as
٠	Have heard of people discarding hogs there that	t have been kil	lled. Tr	ash in the woods.
5.	Has EPA kept involved parties and surrounding best provide site-related information in the futur		ormed (of activities at the Site? How can EPA
	No. I hear about people in Baytown having wells regarding the river bottom. My uncle is involved	s regularly tes l in that lawsu	ted. Mj it.	y understanding is there is a lawsuit
6.	Do you own a private well in addition to or inste purpose(s) is your private well used?	ead of accessin	ng city/	municipal water supplies? If so, for wha
	No.			
7.	Do you have any comments, suggestions or reco	mmendations	regard	ing any aspects of the project?
	My brother has had staph from swimming in rive	er. Keep trying	ζ,	
8.	Do you give permission for the following to be i which becomes a public document? Please initia a. Your name? Yes X	ncluded in the l below. No		Year Review Report and appendices,
	o. Tour allination: Tes A	190		
	c. Your responses? Yes X	No	•	

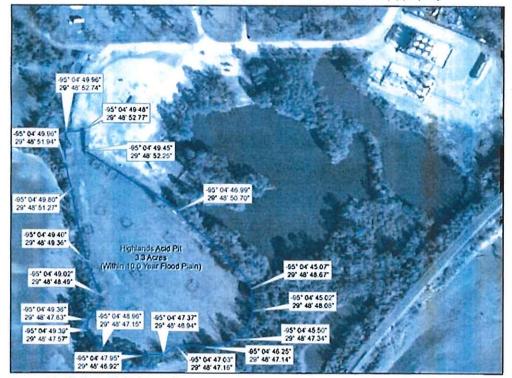
APPENDIX J - INSTITUTIONAL CONTROLS

Highlands Acid Pit Superfund Site Highlands, Harris County, Texas

Posted Site Entrance with a 6 Foot Chain Link Fence/Locked Gate & Cluster Fencing/Locked Gates Around All Locked Site Well Locations.

"BURIED CONTAMINANTS" - STOP BEFORE YOU DIG!

Any reuse or redevelopment involving subsurface utilities, excavation, fence removal, trenching, or well installation requires prior approval by TCEQ, USEPA, and the four (4) property owners.



Draft Deed Notice EPA ID# TXD980514996 110th Congressional District 02

 Map Created 07/16/2007
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2007/07/16/NI.01

As a representative of the U.S. Environmental Protection Agency, I hereby affirm that the facts and information contained herein are furthful and accurate to the best of my knowledge, and that the filing of this notice is required by the USEPA.

Elnest R Franke, Remedial Project Manager

State of Texas, County of Dallar
This instrument was acknowledged before me on this date: July 18 ,2007

by: July line Jamel
Nofary Public's Signature
Commission Expires: Language 2 4, 2041

